ESTABLISHED IN 1872

PAPER TRADE JOURNAL

With Which Is Combined

Vol. XCV, No. 26 — PAPER — Thursday, December 29, 1932

Fight for Countervailing Duties Proceeds

Joseph M. Conway, of Hoberg Paper & Fibre Co., Chosen to Head Committee At Meeting Held In Chicago Attended by 75 Middle Western Pulp and Paper Manufacturers — Steps Will Be Taken to Gain Support of Every Manufacturer In Movement to Remove Currency Differentials On Wood Pulp Imports

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., December 27, 1932—With approximately 75 pulp and paper manufacturers from the Middle West assembling at the Congress Hotel, Chicago, on Tuesday of last week and choosing Joseph M. Conway, president and general manager of the Hoberg Paper and Fibre Company, Green Bay, Wis., as president, satisfactory progress is noted in the steps being taken by the pulp industry to save itself from annihilation due to twenty nations being off the gold standard. A permanent organization was formed among representatives from Wisconsin, Michigan, Minnesota and Ohio, and steps will now be taken to interest every manufacturer and allied industry in support of a countervailing duty on imports sufficient to remove the currency differential.

This meeting is the outgrowth of the conference called at Green Bay, Wis., recently, by Mr. Conway, at which a group of near by manufacturers discussed the situation informally. A committee was appointed at that time to perfect an organization. It met at Wausau, Wis., and arranged the meeting at Chicago to present the matter to a larger group.

Mr. Conway was fortified for the Chicago meeting with an array of facts and figures to show the situation of the manufacturers is as serious as represented, and further that immediate steps are necessary to save the business built up over these years. A bill is already reported to be with the Ways and Means Committees of the House and Senate, and a mass of conclusive evidence will be marshalled to be laid before them for action.

Position of Converting Mills

Some paper converters at the Chicago meeting objected to the move, contending the cost of their pulp supplies would be materially increased and place them at a marketing disadvantage over their competitors and hamper them in retaining the business they are now able to hold. The converters were warned, however, that the debasement of currencies had practically nullified the tariff protection on paper and paper products and unless all manufacturers join to protect the industry as a whole, the entire paper market will be demoralized.

In a prepared statement of the entire situation, Mr. Conway had this to say to the converters in part:

"It seems difficult to realize that some of those in our own industry now engaged in the operation of 'converting' mills, fail to realize what will happen to their 'converting' mills, if domestic production of pulp is allowed to wither and die, the victim of debased foreign currency.

"The entire source of wood pulp would then be the foreign producer. Would he continue to hold the price down to a profitable operating level for American mills or would he step up his figure in an exclusive market entirely under his control?

"Can it be doubted that, under such conditions, American buyers of foreign pulp, then the only remaining world supply, would be at the mercy of the foreign producers; and would pay heavily for the doubtful privilege?"

Summing up the entire situation, Mr. Conway said:

"Our sales are down, our costs are up. Practically all of our protecting tariff wall has been washed away in the collapse of the gold standard in foreign exchange. And it looks as though the worst is yet to come.

"It is a significant fact that today more than half of the products being imported into the United States are benefiting from the advantage of depreciated currency.

"Who will deny that greatly lowered exchange has placed a subsidy on many products listed for free entry; and on protected items, dangerously reduced or virtually destroyed the equalizing tariff?

"The American pulp industry stands in the line of heaviest fire. Domestic production has, over a period of seven years, accounted for 72 per cent of all pulp consumed in American mills.

"If the American pulp industry, therefore, is destroyed in this death struggle with foreign competition, under depreciated currencies, our paper industry may quickly follow on the list of dead or missing."

Kimberly-Clark Mills Active

Practically full production will be maintained for the first three months of 1933 by the crepe wadding mills of the Kimberly-Clark Corporation, Neenah, Wis. The company reports sufficient orders now on hand for this period. The announcement concerns the Badger-Globe mills at Neenah, and the No. 2 mill at Niagara Falls, N. Y.

Philadelphia Paper Market Moderately Active

Christmas Week Brought Out Multitude of Small Orders for Various Standard Grades of Paper —Business Consisted Mostly of Rush Character But Bulked Into Satisfactory Volume for Season—Paper Stock Division Extremely Quiet.

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., December 26, 1932—It is all over but the shouting—the Christmas trade for this year—and while the shouting over business itself was not vociferous there was much shouting reflecting good faith in celebration in which the trade in general participated in the Downtown Club under the auspices of the Typothetae of Philadelphia and the entire force of employees of the Thos. W. Price Company in particular, in its offices at Fifth and Minor streets. By the large—with expectations not very large—the pre-Christmas week brought out a multitude of small orders, mostly of a rush character, which, however, bulked up into satisfactory volume. The week's experience, however, was without notable characteristics. The trade point of view is steadfastly ahead and there honestly exists more confidence in what is hoped for than jubilation over what has happened.

The paper stock business was exceedingly quiet with prices steadily if not firmly maintained and with the market quite closely cleaned up. In the olden times, winding up of the Christmas retail trade always brought with it a large volume of waste as stock but each year this seems to be growing less, and this year is quite small, a result attributed of course to modern method of wrapping and the use of cellophane and other substitutes as covers for materials. What small shipments to the mills there were, were much impeded by the heavy snow fall.

Christmas Parties Held

The Thos. W. Price Company, following the custom of the last decade, gave a special commemorative celebration on Saturday afternoon in which representatives of every department of the firm participated. Norman Fort, head of the company, made an inspiring address, and a chorus constituted of employees, sang carols and other appropriate Christmastide numbers. Leroy Mendenhall, a new member of the Price family, recited, William Earnest gave a tap dance, and William W. Simmons, Frederick Dubbs and Joseph Freiling rendered vocal solos. There was a clever show by the Vici Minstrels, an organization made up of Price employees, with Theodore Johnston acting as interlocutor, William Burton, Willis Benner, Frederick Dubbs and Leroy Mendenhall end men, and a chorus consisting of William W. Simmons, Charles Piegronigle, David H. Thomas, Joseph Freiling, Daniel W. Hess, Harry J. Smith, William Earnest and Emmet Burton.

Representatives from nearly every fine paper house in Philadelphia were present at the Christmas party given in the Downtown Club by the Typothetae of Philadelphia, with whom trade relationship is most intimate. There were prizes for all; these being contributions, among others, of the Molten Paper Company, the Schuylkill Paper Company, the D. L. Ward Company, American Type Founders Company, Bingham Roller Company, Novelty Book Binding Company, Julius S. Weyl, Royal Electrotype Company, the Godfrey Roller Company and finally the Philadelphia Bindery, which furnished big apples for all present. F. Lytton Patterson was Chairman of the Committee in charge.

The Donkeys and the Wolves

The Fable of the DONKEYS and the WOLVES, published in last week's issue of the PAPER TRADE JOURNAL, over the name of O. M. Porter, will certainly come, if it has not already been brought, to the attention of everyone in the trade. Edward A. Keller, vice president and general manager of the Garrett-Buchanan Company, was so impressed with the philosophy of the little story and its very direct bearing and helpfulness on trade conditions that he proposes not only to frame it as a desk ornament but to read it at the forthcoming meeting of the Paper Trade Association early in the New Year. Said Mr. Keller: "I do not recall ever having seen or heard of a story which has under its lighter side imbedded so much philosophy and good common sense as this little item in the PAPER TRADE JOURNAL. If the lesson which it teaches is remembered—and it is so emphatically told that I am sure it will always be remembered—application will be highly beneficial to all in the paper trade."

Big Wood Pulp Cargo Arrives

The Port of Camden, opposite Philadelphia, is congratulating itself that holiday week gave it the largest volume of shipping during the four year history of the Camden marine terminals. A notable arrival was the motor ship *Kelkheim* which brought three thousand tons of wood pulp from Sweden, one of the largest cargoes ever handled here. Alexander Crothers, manager of the Terminal, points out that, in his opinion, improved conditions are to be taken as a genuine indication of betterment, since none of the record-breaking shipments were attributable to the holiday season.

A. B. Kehr Makes Flying Trip

The recent experience of A. B. Kehr, sales manager of the Paramount Paper Products Company, Inc., in making literally a flying business trip, is presented not because of its record-breaking character, since no effort along this line was attempted—but simply to show how quickly in these days of aerial transportation, territory can be covered. Mr. Kehr had a number of engagements in the Middle West, and so at 9:05 P.M. he embarked at the Camden airport on the Trans-continental and Western Air for Pittsburgh, arriving there shortly before midnight in ample time for a good night's rest.

After transaction of business the following morning he continued on the Trans-continental and Western, leaving at 1:15 P.M. and arriving in Chicago at 4 o'clock where by appointment with a representative he was able to transact considerable business before nightfall. Scheduled contacts were made on the following morning and at noon he flew to Milwaukee, spent several hours there, returned that same evening and left Chicago next morning at 9 o'clock for Detroit.

This feature was the most interesting of the trip, since at 2500 feet he ran into a snow storm necessitating a climb to 12,000 feet and flying practically blind the entire time to Detroit arriving on schedule. Then he flew to Cleveland, and in the afternoon left for Philadelphia, via Newark airport, arriving in the early evening, and covering the entire flying distance from Cleveland at an altitude of 12,500 feet; the entire trip of 418 miles from Cleveland to Newark was made in less than 2 hours and 30 minutes

at the rate of 178 miles an hour. Summarized then, Mr. Kehr covered 2500 miles in but three days' absence from Philadelphia.

News of the Trade

George Earnest, formerly connected with the New York office of the Jessup & Moore Company, has just joined the sales force of the Thos. W. Price Company. He will look particularly after the publication trade.

Leroy Mendenhall, formerly with the Monarch Division of the United States Envelope Company, has also been added to the Sales Organization of the Thos. W. Price Company, and will look particularly after its envelope business.

Representative Stepp, of the Brown Company, made his initial trip to the paper trade during the week in the interest of his extensive line of printing papers.

Edward D. Hemingway, who until his retirement a number of years ago, was among the leaders of the paper stock industry in this city, and who recently returned from a trip around the world, called on many old friends to extend holiday greetings. Mr. Hemingway will sail for England in early Spring, and his present plans call for a visit to South Africa thereafter. He is dividing his periods of residence in this country between his farm and cottage in Maine and apartment in Philadelphia.

Trade sympathy is being extended to William A. Meeks, manager of the Typothetae of Philadelphia, because of the death on December 21 of his father, W. T. Meeks, at his home in Rockingham, North Carolina. Manager Meeks will return to his duties during the early part of January.

Moore & White Company is installing a dryer part on a continuous fiber machine at the Taylor & Co. plant, Betzwood, Pa.

The D. L. Ward Company is handling a full line of Beckitt papers including a new line of covers called Ohio cover in 40, 50 and 65 pounds, white and colors.

To Exhibit Paper at Chicago

Representatives of America's billion-dollar paper industry—seventh basic industry in the country—announced Thursday, December 22, that they had contracted for a block of 2,100 square feet of exhibit space in the Graphic Arts Pavilion of A Century of Progress—Chicago's 1933 World's Fair.

The exhibit will show the manufacture of paper, pulp and paper products, and their industrial, commercial and domestic uses.

"Without paper we should be back in the stone age," said Phil A. Howard, of Chicago, publisher of the *American Paper Merchant* and managing director of the exhibit. "There are 10,000 uses of paper from napkins to carwheels and all of them will be shown at A Century of Progress.

"One of our plans is to exhibit a paper kitchenette apartment. The walls, for instance, will be of wallboard covered with wallpaper. The floors will be covered with paper rugs. Furniture will be made of pressed paper. Food will be prepared in paper baking dishes and served in paper dishes on a table set with paper tablecloth, napkins, dishes and cutlery."

The exhibit will be in the name of the Paper Foundation, organized for that specific purpose and having on its board of governors one representative each from the leading paper trade associations—American Paper and Pulp Association, Technical Association of the Paper Industry, Western Paper Merchants Association, Chicago Paper Association, American Paper and Pulp Mills Superintendents Association and National Paper Trades Association.

Acquire Hawley Pulp & Paper Co.

Acquisition by the Western Cooperage Company, of Portland, Ore., of the Hawley Pulp and Paper Company at Oregon City, Ore. and reorganization of the mill's management personnel was revealed in an announcement made December 20.

Major Watson Eastman, president of Western Cooperage Company who has served for several years as chairman of Hawley Pulp and Paper's bondholders' committee has been elected president by the board of directors and will assume active management of the company's affairs. Mr. Eastman has been long identified with the pulp industry and is thoroughly grounded in the industry by virtue of several years' experience.

While control of the company has passed on to new interests, provision has been made to insure representation of the holders of bonds and preferred stock on the board of directors of the Hawley Company, it is said. There will be no changes in the financial status of the company for the present, states Mr. Eastman.

The interests of the Western Cooperage Company are coastwise, with large plants being maintained at Seattle, Portland, San Francisco and Los Angeles. It has large timber, logging and road interests in addition to its cooperage business which has been in continuous operation for more than 40 years.

Says Mr. Eastman, "We have long had a desire to get into the paper industry and welcomed this opportunity. We do not contemplate any immediate changes in the company or its financial structure, but we believe the company's outlook exceptionally bright. Whether our entrance into control of the concern will enhance the value of its bonds is something for the future to decide.

"Hawley Pulp and Paper is an old-established concern. Its plant is operating steadily and we hope to build up its usefulness and assure its continued operation. We have assumed control through purchase of its common stock," he said.

Method for Dressing Grindstones

[FROM OUR REGULAR CORRESPONDENT]

GLENS FALLS, N. Y., December 24, 1932—A patent on a method for dressing grindstones has just been granted to Webster N. Baker and Ralph A. Masten, of this city. A number of claims for new ideas in connection with the invention were allowed and patent rights have been assigned to the International Paper Company. The invention is described as follows: "In combination with a rotary grindstone, a rotary burring tool engaged therewith and movable longitudinally thereof to traverse the face of the stone, a receptacle associated with the tool to receive the material resulting from the burring operation, a water jet directed against the stone at a point adjacent the point of contact of the tool therewith, and in a direction opposite that of the movement of the stone at that point, to dislodge said material, said jet acting in a direction to cause the dislodged material to be deflected into said receptacle."

I. P. Turners Falls Mill Not To Reopen

[FROM OUR REGULAR CORRESPONDENT]

TURNERS FALLS, Mass., December 27, 1932—Notice was received last week that the Turners Falls mill of the International Paper Company will not reopen today and that it will remain closed for an indefinite period. About 190 men are thrown out of work by this decision. Last March the plant shut down and did not reopen until September 6 since which time it has been operating regularly.

Chicago Paper Market Continues to Drift

Position of Fine Paper Section Remains Practically Unchanged—Book and Cover Papers Marking Time—Kraft Wrapping Paper Quotations Generally Holding to Previously Quoted Levels—News Print Paper Situation Uncertain

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., December 26, 1932—The drifting process which the Chicago paper market invariably goes through during the holiday period is now on. However, market conditions are reported as being slightly better than expected and those salesmen who are returning to their desks after a firing line session are quoted as saying that the paper market gives some promise as soon as the inventory period is passed. There has been no marked action in local markets during the past seven day period. Spotty conditions have prevailed from day to day and in reports from concerns in the same lines of business.

The kraft market is holding at or near levels established some weeks ago and is reported as evidently having reached a basic position for improvement. The over-the-counter business in Chicago has not been as good as in other seasons but an unexpected improvement in the holiday retail trade here is expected to make re-orders necessary in many instances. Fine papers remain practically unchanged. Preparations for inventory are being made and lines prepared for 1933. Books and covers are about the same. The news print market is reported to be feeling the effects of indecision on the part of national advertisers—and thus the newspapers—on plans for the immediate future. Some courageous starts are being made, however, that will have a fairly good effect, it is thought. Paperboard has slumped slightly, the decreased activity being partly due to seasonal causes. Little is expected of the waste paper market until at least after the first of the year.

Paper Foundation Progress

A. C. Gilbert, president of the Gilbert Paper Company, Menasha, has been added to the directorate of the newly created Paper Foundation which has been formed to put over the proposed paper exhibit at The Century of Progress in Chicago in 1933. Mr. Gilbert will represent the American Paper and Pulp Association. Phil Howard, editor of the *American Paper Merchant,* is now spending much of his time as managing director of the Foundation in rooms 364-66, the Conway Building, with Randolph 1953 as the telephone number. From that source Mr. Howard is creating an organization which will reach all branches of the industry with an appeal for assistance in giving the paper industry its rightful position as one of the leading industries at the mammoth exposition. A meeting of the Board of Directors will be called early in January, probably the first week of the month, and at that time representatives of nearly all of the more important associations will assemble to make further plans and elect a permanent treasurer who will be a nationally known paper executive. In the meantime early results indicate that the industry is beginning to realize the possibility of not only exhibiting itself but also of creating new markets for paper usage by a worth while display in the Graphic Arts Building where space has already been temporarily reserved.

Blunden-Lyon Supervision

It is reliably reported that the Marquette Paper Company, 608 South Dearborn street, Chicago, will this week take over the permanent supervision and management of the Blunden-Lyon Paper Company, of the same city. The Marquette organization has temporarily taken over the supervision of management of Blunden-Lyon pending complete acceptance by creditors of the latter firm of the proposal that claims as of October 31 be settled on a 40 per cent basis. Some time ago 85 per cent of the creditors had specified that they were willing to act on this basis and now it is reported that the unanimous action of the creditors will be arrived at this week. It has been necessary to gain the acceptance of all of the creditors to make a permanent supervision program possible and it is expected that such will be the case this week. The agreement has carried within it an arrangement for an open billing basis of Blunden-Lyon beginning on November 1.

New Roller Chain

The Link-Belt Company, 910 South Michigan Avenue, Chicago, has announced a new roller chain to be known as the Link-Belt Silverlink. The name is not derived from the consistency of the links but from the fact that the side bars are especially treated to assist in corrosion resistance, giving the roll chain a silver appearance. The new product will be available with wheels for any horse power and in a wide variety of conveying attachment links. The Silverlink roller chain will be made in all sizes from ⅜ inch to 2½ inch pitch and in single or multiple width.

Paper Salesmen Meet

The Middle West Division of the Salesmen's Association of the Paper Industry held its final 1932 meeting on Monday, December 19, with the unusually large attendance spending most of its time dicussing business conditions and plans for the development of the Paper Foundation. The association is decidedly aggressive in its efforts to get proper representation at the Century of Progress Exposition. This spirit should be revealing to manufacturers as it indicates a belief, on the part of the salesmen themselves, that the proper kind of exhibit will actually increase the demand for paper by a revelation of its many and varied uses. The association will hold its first meeting in 1933 on January 9.

News of the Trade

An effective advertisement featuring Linweave Papers has recently been sent out by the Swigart Paper Company, 723 South Wells street, Chicago. Printed on Linweave Text, Antique, Grey, the folder carries the following message: "Business can no longer retreat. It must attack. The printed message is Man Power. The United States Mail is its Transport. Clothe your regiment with Linweave Papers. They will gain an audience and present your message profitably." Linweave Papers are shown in Volume 6 of the Swigart Sample System, which has proven its popularity in the Chicago paper market.

Harold Knott, Eastern Manufacturing Company sales executive in this territory, left December 23, accompanied by Mrs. Knott, for a combined business and holiday trip in the East. Mr. Knott will spend the majority of his time at the Eastern mills. They expect to return to Chicago after the holidays.

"As Correct As the Form of a Blue Ribbon Winner", is the latest "correct" in the series being sent out to the

trade by the Aetna Paper Company through its Chicago distributors, Midland Paper Company, Moser Paper Company and Parker, Thomas & Tucker. The message is printed on Correct Bond, White, 20-pound, cockle finish. And the copy, quite naturally, ties up Correct Bond and a thoroughbred performance with like performance in a thoroughbred blue ribbon winner.

Frank D. Frampton, of the Hopper Paper Company, Taylorville, has been appointed by the Illinois Manufacturers Association as the representative from his legislative district on the Legislative Committee of that association. Mr. Frampton is an enthusiastic member of the organization. His job will be to report the legislative tendencies of his district and to contact with Senators and Representatives from that section on legislative matters affecting the industry of the State.

The *Chicago Tribune* carries the interesting statement that the paper mill at Thorold "now has an average production of 400 tons per day—or enough paper to make a strip eight feet wide, reaching from Chicago to San Francisco and five hundred miles out into the Pacific." All of which makes the average laymen realize a bit more the importance of the paper industry.

Centralized Purchasing Agencies

The Waste Paper Institute with headquarters at 1109 Times Building, New York, for some time has been endeavoring to convince paper board manufacturers that purchasing waste paper through a centralized purchasing agent was not a practice in which they could cooperate with the board mills. A letter recently received by Charles M. Haskins, executive secretary of the Waste Paper Institute from P. M. Loddengaard, who has been acting as a centralized purchasing agent for a group of Eastern board mills indicates that there is a possibility that a more mutually cooperative plan may be developed. Mr. Loddengaard wrote as follows:

"Inasmuch as my office has been considered one of the obstacles to any amicable relationship between the waste paper dealer and consuming paper mills, and in order that misunderstanding of purpose be eliminated to the end that some cooperative effort may be successfully worked out for the mutual benefit of both sides, I have decided to cease functioning in my present capacity at the expiration of my agreements. This will most likely be at the end of this year.

"There is one important thing both sides must recognize—and that is—that the other fellow has some problems too. No one side has a corner on all the troubles or all the sunshine. I sincerely hope that out of this will come a real understanding of each other's problems, without which there will always be needless and costly controversy. If, in the course of your efforts to arrive at a satisfactory understanding with the consuming mills, I can be of service, I will be happy to do what I can to be helpful."

Norwegian Pulp Production

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., December 28, 1932—Norwegian wood pulp mills report an output of 14,131 metric tons of bleached sulphite, 9,407 tons of unbleached sulphite, 1,631 tons of sulphate, and 29,750 tons of wet groundwood during the month of October. With the exception of wet groundwood, of which 46,116 tons were produced in the corresponding month last year, the October 1932 output shows a slight increase over that of October last year.

Want Adequate Paper Protection

WATERTOWN, N. Y., December 27, 1932—The local branch of the International Brotherhood of Papermakers has sent a petition to New York State Congressmen requesting that efforts be used for the establishment of an adequate protective tariff in order that the elimination of numerous paper mill communities and enforcement of idleness of thousands of workers may be prevented. The committee in charge has already received favorable replies from several Congressmen who have endorsed such a plan. The union local at Deferiet has gone so far as to petition every organization identified with the International body for cooperation in bringing the proposition to the Congressmen in their respective states and aid is also to be requested from Chambers of Commerce in mill communities.

The petition sets forth that only a percentage of the pulp and paper mills in the country are operating and that the existing situation is principally the result of the importations of cheap foreign pulp and paper. It states that wages have been reduced considerably to compete with the foreign products but without beneficial results to American manufacturers and with great loss to the workers. It is contended that much of the foreign importations are shipped up the Mississippi River which necessitates expensive handling but still are sold in this country below the cost of American goods. It also brings out that the completion of the St. Lawrence waterway will enable large ocean vessels to unload their cargoes in Great Lakes ports permitting foreign industries to lower prices still further which, if not stopped, will eventually wipe out the paper industry in states abounding the lakes.

Contracts to Furnish Paper Awarded

BOSTON, Mass., December 26, 1932—The following awards have been made for contracts to furnish paper to the Commonwealth of Massachusetts for 1933:

For 250,000 lbs. M. F. book, Tileston & Hollingsworth Company, No. 1 grade, 3 per cent—30 days discount. $4.00 cwt. (50 lb.)

For 700 reams first grade ledger (rag) Whiting Paper Company, Whiting's Linen Ledger No. 1 grade, 3 per cent—15 days discount, .22 lb. white, .22½ lb. colors.

For 700 reams of second grade ledger (sulphite) Rutter & McNaught, Inc., Eatonian Ledger, 8.90 cwt. white, 9.90 cwt. colors.

For 5,000 reams of first grade bond, Century Paper Company, Rockledge Bond, no charge for broken packages, .11¾ lb. white, .12 lb. colors, did not state on golden rod.

Cover paper, John Carter Company, Volume Cover, .07¾ lb. reg. col. .09¾ lb. red.

For 2,000 reams of Chemical Manila, John Carter Company, Terminal Manila, 3.65 cwt. cut sheets, 3.45 cwt. full sheets.

Mimeograph, Von Olker-Snell Company, No. 127 Mimeo, 4.85 cwt. cut sheets, 4.85 cwt., full sheets.

Mazer Paper Mills' New Power Plant

Mazer Paper Mills, of Lansdowne, Pa., manufacturers of toilet paper and toweling, have started construction of a new unit for generating their own power. The steel and concrete skeleton of the new boiler house and power plant is nearing completion and a new 350 hp. boiler and 750 KW steam turbine are in the process of erection.

This new unit will represent an investment of approximately $50,000 and the supervising engineers, Johnson & Wierk of New York, expect the plant to be in operation about the first of March.

Boston Paper Market Continues Inactive

While Business During Past Two Weeks Has Been Extremely Dull, Opinion Is Expressed In Some Quarters That Substantial Volume of Orders Will Be Placed Following the Turn of the Year—Inquiries for Future Account Are Fairly Numerous

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., December 27, 1932—Business in the last two weeks of the year drops to the lowest point and this year it has dropped to the lowest point in history, according to statements in the paper trade. On the other hand, there is evidence of a substantial amount of business which will have to be and probably will be placed after the turn of the year. Whether or not business has improved, January of 1933, it is urged, ought to make a fairly respectable showing. The coming month "improvement ought to look so good to all that they will forget their previous troubles, get going and keep going."

In the fine paper division, customers are asking for figures from dealers in making their plans for printing orders. Bonds and ledgers continue to move in about the same volume. Wrapping paper is rather slow, fair at best. The same is true of paper specialties.

The box board market is firm, but it is estimated that a smaller volume of merchandise was sold the last week than in the previous week. With an improvement in the folding box business, however, more boards for this purpose have been called for of late than there had been. Buying is generally for immediate needs.

Dullness, largely due to the inventory period, continued in the paper stock market, although values were unquotably changed throughout the list. The fine writing mills are understood to be marking time in their buying, owing to large supplies of material on hand and to lack of improvement in their business. On this account they are loath to buy additional supplies, even at the present reduced prices. Mixed papers tend to be weak, due to the fact that a local board mill near Boston is closed this week and some others are running on a half-time schedule. Prospects for gunny bagging for the coming year do not appear very bright, with weakness predicted. The Western demand is not expected to be any better in 1933 than it has been the present year, in which it has been below normal. Dealers anticipate a quiet week, at least in some grades, as the plant of Bird & Son, Inc., will be closed.

Increased Wood Pulp Rail Rates Opposed

Vehement opposition to the proposed increase in rail rates on wood pulp was expressed December 20 at the hearing before a committee of the New England Freight Association at the South Station. The New England railroads as a unit, with the exception of the Boston and Maine, proposed to increase the rates 2 cents per 100 pounds on wood pulp shipped from Boston to points west in the Central Freight Association territory. There was a large attendance, with many speaking in opposition. It is felt that the plan would materially cut into imports here from overseas, the bulk from Sweden.

Those who protested included Mr. Dean, of the International Paper Company; Vincent W. Hatala of New York, traffic manager of the Association of Wood Pulp Importers; Richard Parkhurst, vice-chairman, Boston Port Authority; Frank S. Davis, manager of the Maritime Association; Walter Doherty, president of the Foreign Commerce Club; Irving L. Hall and George H. Toole, Boston steamship executives; John Birmingham and M. J. McHugh, stevedores, and Leo J. Coughlin, general manager of the Boston Tidewater Terminal, South Boston.

Frank Van Ummerson, chairman of the New England Freight Association, presided and sitting with him on his committee were about a dozen representatives of the New England railroads.

Mr. Dean, of the International Paper Company, declared that it is improper for the railroads to change the present rate relations "at the dictates of the trunk lines which would get the business." He said that if the proposal is allowed to stand the International Paper Company will have the same rate as now at Portland, Me., and Baltimore, Md., but it desires to have the Boston rate also remain as is.

Mr. Hatala said that his association is opposed to the action proposed. He stated that "the drastic change proposed will tend to disrupt the flexibility that is now enjoyed by pulp consumers and importers and will certainly injure and harm the interests of those concerned who use the Port of Boston. If the proposal is approved the importers will be dealt a further blow by either having to hold in storage indefinitely the present stocks of pulp in Boston until disposal can be effected in the mills in the locality whose consumption is curtailed by present conditions, or arrange disposal to other points. We respectfully urge that the present port relationship be continued as heretofore and trust that the carriers will so decide."

Mr. Parkhurst said that it is hard to understand what is behind the attitude of the New England railroads in presenting this proposal to increase the existing rates on wood pulp from Boston to points in the C. F. A. territory. The proposed rates, if made effective, would divert this C. F. A. tonnage from the port of Boston to competing ports. Mr. Parkhurst called attention to the fact that the Interstate Commerce Commission last November gave a decision that was favorable to Boston, and the railroads are seeking to offset that decision by their new move. He said that decision maintains Boston on the same rate basis as Baltimore and Portland. The new move, however, would place Boston again on the New York rate basis, higher than Portland, Baltimore and Philadelphia.

Samuel Silverman, corporation counsel for the City of Boston, said "We view the proposal with alarm as a move by those railroads that are unfriendly to Boston and intend to fight them in this case to the limit of our resources." He denounced the "foreign" roads for "dictating" to the New England carriers, and said he hoped the day would come when the roads serving Boston would be their own masters "and not take these dictations from foreign powers." Mr. Silverman said "we shall defend Boston against those who have not at heart the interests of Boston, but who are unfriendly to Boston, discriminating against us, in favor of Portland. Boston has spent thousands of dollars to help the port, while some of the railroads have been stabbing us in the back. The railroads favoring this proposal must know that it will hurt Boston."

News of the Trade

Christmas parties were held at a number of paper houses last week, with considerable merriment and jollification. The annual Christmas party of the D. F. Munroe Company Friday afternoon was one of the best ever, with Santa Claus, impersonated by Floyd H. Blackman, a member of the firm, distributing gifts from a gaily decorated Christ-

mas tree. A feature of the party was the presentation of wrist watches to Catherine Stiles and Albert Holmes as 100 per cent members of the staff for loyalty and extra effort during the year in the interests of the concern beyond regular duties.

At the office of Storrs & Bement there was a Christmas party Friday afternoon, most enjoyable. The festivities began at 3 o'clock, lasting until 5.30. Santa Claus, impersonated by Fred J. Rose, dispensed remembrances, largely humorous to all, from a beautiful Christmas tree. The program included music, refreshments and dancing.

T. Harry Casey, of the Casey Bigley Company and treasurer of the Boston Paper Trade Association, is seriously ill at his home.

Sealed bids for the sale of mixed paper accumulating at the Army Base from January 1 to Mach 31, next, are to be opened at the Boston Quartermaster Depot, Army Base, December 29. The weight will probably approximate 5,000 lbs., according to estimate.

The J. J. Murphy Paper Company has taken space on the fifth floor at 143 Federal street.

Interstate Commerce Decisions

WASHINGTON, D. C., December 27, 1932—Examiner of the Interstate Commerce Commission has found that an award of reparation on shipments of printing and wrapping paper, in carloads, from Peshtigo, Wis., to Fort Wayne, Ind., is barred and no finding made with respect to the reasonableness of the rate in the past. The Examiner found also that the rate assailed was not shown to have been unreasonable for the future and not unduly prejudicial and the complaint is dismissed. The Examiner's finding was in the case of the John Wilding Paper Company against the Chicago & North Western Railway.

The Commission has rendered a decision on scrap paper in the case of Grimes & Friedman against the Belt Railway Company of Chicago. In its syllabus the Commission says:

"1. Present rates on scrap paper, in carloads, from Enid, Muskogee, Oklahoma City, Okmulgee, Perry and Tulsa, Okla., to Kansas City, Mo.; Federal, Ill., Neenah, and Menasha, Wis., Otsego, Plainwell and Watervliet, Mich., found not unreasonable.

"2. Present rates on the same commodity from Wichita, Kans., to Neenah and Menasha, Wis., and Watervliet, Plainwell and Otsego, Mich., found unreasonable. Reasonable rates prescribed.

"3. Rates on like traffic from and to the same points found not unreasonable in the past, except in certain instances. Reparation awarded."

Canadian Paper Association To Meet

The annual general meeting of the Canadian Pulp and Paper Association will be held in the Pulp and Paper Research Institute, Montreal, on January 27. The business will consist of consideration of reports from the various sections, the reading of the financial statement for the year, and the election of officers. The general meeting will be preceded by sectional meetings on January 25 and 26. The Technical Section's annual meeting will be held on these dates in the Engineering Institute of Canada, Montreal, and on the same dates the annual meeting of the Woodlands Section will be held in the Pulp and Paper Research Institute. Under the auspices of both sections a luncheon will be held in the Ritz-Carlton Hotel on January 26 at one o'clock. The chief speaker will be the Hon. H. H. Stevens, Minister of Trade and Commerce for Canada.

Indianapolis Demand Slow

[FROM OUR REGULAR CORRESPONDENT]

INDIANAPOLIS, Ind., December 27, 1932—Little actual business was transacted here during the past week and little is expected during the week to come due to seasonal influences. The entire trade appears to be marking time until after the first of the year. Inventories this year will be lower than those of last, even though such a thing seems hardly possible. And they will be held to as low a point as possible during the first quarter of the new year and likely the first half. Much depends on business conditions after the turn of the year. The local jobbing trade is not intending to carry any load for the consumer in the way of large paper stocks. It seems some of them would rather miss a small order than be compelled to carry items infrequently called for.

The impetus caused by the Holiday season has waned, of course. The box trade did fairly well, with some demand seen in the fine paper field. The volume was nothing to brag of. In spite of increased postage, there were some direct mail campaigns sent out. The number was far below usual, however, and the money spent on paper stock and printing was curtailed as much as possible, doubtless to create some saving to make up for the increased postage necessary.

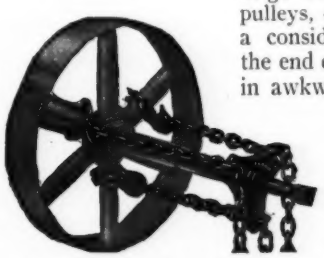
The container business continues rather active in spite of conditions. There is a spotted demand, with some industries taking quite frequent orders and others apparently out of the market altogether. However, the coming of the new year will find an expansion in the number of users over the same period last year.

News print was selling in fair shape last week to the small town papers particularly. The volume is expected to hold up until after the first of the year because of post-Christmas sales. The large papers in the industrial centers are having rather a rough time of it. Were it not for the national advertisers some of them would be mighty slim affairs each issue.

The paper stock business is about the same as it has been for the last three weeks. There is none. Mills are taking very little stock and the local trade is buying very little.

Improved Gear Puller

Armstrong-Bray & Co., of 308-310 Sheldon street, Chicago, Ill., are manufacturers of the Steelgrip Universal Gear Puller, an improved gear puller that will pull large or small gears, wheels or pulleys, even though they may be a considerable distance in from the end of the shaft. It will work in awkward places and is simple to operate.



UNIVERSAL GEAR PULLER

Its manufacture is of the very highest grade. The screw is of ample size and made of chrome nickel steel, hardened at the point. The chains are tested and have a safety factor well over their rated strength of 2,000 lbs. and 8,000 lbs. each for the No. 2 and No. 4 Pullers, respectively.

No. 2 Puller is equipped with 3 chains ¼-inch thick and each 3 feet long, and will pull over 3 tons. No. 4 Puller is equipped with 3 chains ½-inch thick and each 5 feet long and will pull over 12 tons. Longer length chains can be furnished at additional cost.

Outlook for News Print Uncertain In Canada

Despite Delay In Effecting Pooling Arrangement, and Stability of Price Structure In Industry, Hopes Are Still High That This May Be Effected During Forthcoming Year—Need for Some Cooperative Action Plainly Indicated

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., December 27, 1932—The year draws to a close with great hopes unfulfilled as regards to news print industry. Despite prolonged and most earnest negotiations, it has not yet been found possible to effect a pooling arrangement and stabilization of the price structure in the industry, though hopes are still high that this may be done before the year 1933 is far advanced. Meanwhile the seriousness of the situation and the need for some cooperative action is indicated by the fact that, with the exception of St. Lawrence Corporation, Hersey Paper and Canadian International, all of the major news print concerns in the East are either being operated for the benefit of bond holders or are in receivership. The Lake St. John Power and Paper Company, subsidiary of St. Lawrence Corporation, is in default on both interest and debentures.

From Vancouver now comes the news that the ruinous competition which has had such an effect on the news print industry in Eastern Canada is now beginning to extend its unfavorable influence to the Pacific Coast. Prices not only reflect conditions in the East to a material extent, but are influenced by keener competition from Scandinavian producers which have the advantage of low currency levels.

It is reported that shipments of distress supplies of news print from the East, especially from Newfoundland, are reaching proportions that threaten to bring about similar conditions in the Pacific field to those that have so seriously crippled the chief operators in Eastern Canada. The International Paper Company, so despatches state, has been shipping about 1,000 tons of news print a month to that territory and quoting prices about two dollars less than the established figure of the Powell River Company and Crown Willamette.

International, it is further stated, offered to sell news print as low as a shade over $40 recently. As this coast business of International represents surplus production, officials of coast mills regard it as dumping, but they have no means of combatting its effect except by lowering their own prices.

New Head for Fraser Companies

At a meeting of the board of directors of Fraser Companies, Ltd., held at Edmundston, N. B., changes were made in the scheme of management to meet the problem caused by the loss occasioned through the recent death of the president, the late Archibald Fraser. An additional vacancy on the board had been caused through the resignation of George H. Mead, who handled the sale of the company's products in the United States through the Mead companies until Fraser Companies, Ltd., developed its own sales organization. This has now been accomplished and all products are being sold direct.

These two vacancies were filled by the election of Harold Crabtree, of Montreal, and Lt.-Col. Robert F. Massie, D.S.O., of Toronto. K. S. Maclachlan, who has been general manager of the company since April, 1930, has been elected president. Donald Fraser, of Plaster Rock, N. B., who is a brother of the late Archibald Fraser, and has been an officer of the company since its inception, continues as vice-president. Mr. Maclachlan has also been elected president of Fraser Paper, Ltd., Restigouche Company, Ltd., and other subsidiaries.

U. S. Deal for Newfoundland Pulpwood

United States interests are reported to have been negotiating with representatives of the Newfoundland government for the purchase of pulp wood. Conferences took place in New York and Portland, Maine. The Hon. W. J. Walsh, Minister of Mining and Agriculture in Newfoundland, returning from Portland via Montreal, with his solicitor, remarked that he could say nothing concerning the conferences except that certain proposals had been made which would be submitted to the Newfoundland government.

Efforts to Boost Lumber Sales

As most of the larger news print concerns are heavily interested also in the lumber trade, leaders in the industry are making great efforts to secure markets for lumber, and particularly in Great Britain, where preferences are now available under the agreement of the Imperial Economic Conference at Ottawa. The great stumbling block in this connection has so far proved to be the currency question, which offsets the preference in favor of Scandinavian and Rumanian supplies. Canadian representatives have been in England for some time past learning the requirements and practices of the British lumber trade, and confidence is expressed that a larger volume of the orders will be placed in Canada.

As illustrating one phase of the question, a London despatch states that Sir Kingsley Wood, Postmaster-General, said in the House of Commons his department had and would continue to seek to utilize Empire sources for needed supplies of telegraph poles.

Sir Kingsley said he had made many efforts to secure an Empire supply but the number offered was below the total requirements and a high percentage was unsuitable. During the last 50 years grown poles actually delivered from Empire sources were short of the orders by many thousands, he said. He had received only three Empire tenders for 1933 requirements but their prices had been prohibitive and the timber unsuitable.

Meanwhile the Quebec government announces that the wood cut on Crown lands in the Province will probably be increased by 150,000,000 feet board measure this winter, over the cut last winter, which was 600,000,000 feet board measure. This increase will serve to guarantee employment for upwards of 17,000 men in Quebec forests this winter.

At the annual meeting of the Montreal Wholesale Lumber Dealers in Montreal during the week, S. C. Thompson, retiring president, said they were looking for a benefit of conditions generally by the spring, but at present there were no indications of a change for the better. He added: "The quantity of lumber on sticks in eastern Canada today is 60 per cent below normal and, considering the probability of a number of mills that will not operate next year, and an expected reduction in production of those who will operate, together with the small amount of stocks carried by the retail yards throughout Ontario and Quebec, I am inclined to believe that prices during the next year will be advanced, especially on many lines that are now short on the market."

Obituary

William L. Lewis

William L. Lewis, one of the most widely known salesmen in the paper trade, died at Miami, Florida, December 18, at the age of 72. Mr. Lewis devoted fifty-eight years to the paper business, and during all of that time was associated with the wholesale paper and pulp house of Bulkley, Dunton & Co. Born in Bloomfield, New Jersey, of Revolutionary stock, he came to Bulkley, Dunton in 1874 as an office boy, served for a few years as shipping clerk, and answering what was in his case an inborn talent, begged the senior partners of the firm to allow him to sell.

Once out on the street, his tact, resourcefulness and ability to make friends brought him rapidly to the top. Some of the largest accounts in the business passed through his hands, and before he retired from active life, he had accumulated an extraordinarily wide acquaintance, not only in the trade, but among the leading publishers of newspapers, magazines, and books.

Mr. Lewis' resourcefulness and knowledge of paper developed rapidly. On one occasion in order to obtain a desirable account, he himself taught a paper mill how to manufacture a certain grade required by the United States Envelope Company. The paper was satisfactory and it resulted in very large business for a long period of years. He did business of a similar size in coating papers, selling the convertor, and in some cases initiating the business of converting.

In the early days of ground wood, before the big dailies began buying their supplies directly from the mills, Mr. Lewis sold many of them, and he was instrumental in dividing the annual tonnage amongst the then producing mills, there being a shortage of news print capacity, and as a result had a definite influence in the development of this important industry. In the paper trade it was always said that if "Bill" Lewis ever lost a big order, he would be able to replace it in a few weeks, probably by a larger one.

Among his specialties were tablet, envelope, ribbon and note-book papers. In the latter field he worked with S. E. Vernon, the pioneer in cheap note books. He was manager of a department for Bulkley, Dunton & Co., building up for them a very large business in ribbon papers. Mr. Lewis had many outside interests. At one time he was part owner of the *Rochester* (N. Y.) *Times*, and was for a number of years vice-president of the C & M Envelope Company.

Mr. Lewis retired from active business in 1930, but could not completely sever his connection with the paper trade. He always maintained his connection with Bulkley, Dunton & Co., and was a valued and welcomed member of its organization until the day of his death. His death marks the passing on of one of the oldest members of the trade, and is deeply regretted by all who knew him.

John A. Harlow

John A. Harlow, whose death on Wednesday, December 14th, was briefly mentioned in the PAPER TRADE JOURNAL last week, was born in Brewer, Maine, in 1880, the only son of Mr. and Mrs. Freeland Harlow, was graduated from Bowdoin College in 1903, and immediately went to Old Town as assistant chemist for the Penobscot Chemical Fibre Company, remaining with that company until his death, gradually advancing until in 1915, when the new sulphite mill was started, he became superintendent of that mill, in which position he made a firm reputation for himself and for the quality of the product he manufactured.

Early marrying Miss Josephine Berry, they had two sons, Frank and Freeland, both of whom have been graduated from Bowdoin, and a daughter, Hope, now a high school student.

Mr. Harlow was chairman of the Northeastern Division of the American Pulp and Paper Mill Superintendents Association; a very active member and treasurer of the Old Town Methodist Church; president of the local branch of the Y. M. C. A.; Past Master of Star in the East Lodge, F. & A. M.; Past High Priest, Old Town Chapter, R. A. M.; member of St. John's Commandery, Knights Templar, and a Scottish Rite Mason, also a director in the Old Town Chamber of Commerce and a Rotarian.

A man of sterling character, quiet, modest, of kindly disposition, blessed with an unusual amount of commonsense and good judgment, Mr. Harlow was a staunch, dependable friend, a loyal supporter, an active tireless worker, interested in his life work with the Penobscot Chemical Fibre Company and in all movements to benefit the community. The Y. M. C. A. and Boy Scout work demanded much of his thought.

The mere enumeration of his activities does not tell the entire story. He was not content to be a member merely responding to roll call, but gave the best he could of thought and effort to advance the good works in which he was interested. He was loved and respected by his associates in management; he was equally loved and admired by men in his employ for whose welfare he was always truly working.

Charitable in every sense, firm when necessary, adhering strictly to the right course as he saw fit, and fearless in advocating it, he made a place for himself in the paper industry which will not be easily or quickly filled, and his host of friends keenly feel their loss.

Frederick O. Hanson

SPRINGFIELD, Mass., December 20, 1932—Frederick O. Hanson, 70 years old, former proprietor of the Plymouth Paper Company, of Holyoke, died in his home, 169 Florida street, this city, yesterday. He had many friends and acquaintances both in Springfield and Holyoke.

Mr. Hanson had been in poor health since 1928, when it caused him to sell the business he had organized in 1888. The Plymouth Paper Company has carried on brokerage transactions.

A native of Springfield, Mr. Hanson had lived his entire life here. He was the son of the late Levi O. and Elmira (Bigelow) Hanson. He received his education in the public schools of this city.

When in his 25th year Mr. Hanson had the desire to strike out for himself in the business world and the formation of the Plymouth Paper Company was the result. He built it into a substantial concern.

Mr. Hanson was a member of the Springfield Country Club, the Nayasset Club, South Congregational Church, and also was a Mason.

During the last four years, since his retirement, he had largely remained at home. He leaves his widow, Mrs. Eva C. Hanson, and a sister, Mrs. William A. Schlesinger, also of this city.

Edward A. Hale

[FROM OUR REGULAR CORRESPONDENT]

NEWBURYPORT, Mass., December 19, 1932—Edward A. Hale, a prominent paper box manufacturer here for fifty years, and widely and favorably known, died yesterday at

the Anna Jacques Hospital after an operation. Mr. Hale was in his 83d year.

He was born in Newburyport January 11, 1850, son of John W. Hale and Anna Smith Titcomb Hale, of a long line of Colonial ancestors, including Anne Hutchinson, Gov. Dudley and Gov. Bradford and the Tracy family, prominent in Revolutionary forces. He founded his box manufacturing business in this city in 1883. He was a past president of the New England Box Manufacturers' Association. He was a member of the Unitarian Church, St. John's Lodge, I. O. O. F., and a number of local civic and charitable organizations, including the Dalton Club, of which he was formerly president. He was a former member of the board of aldermen and city council and served for many years on the water commission, of which he was chairman, and on the school committee.

Mr. Hale was married twice. He leaves his wife, Mrs. Jessie Joyce Hale; a daughter, Miss Barbara Hale, a freshman at Radcliffe College; a son, Ralph Tracy Hale, of Boston and Winchester, of the Boston publishing firm of Hale, Cushman and Flint; a grandson, Albert Greenleaf Hale, a freshman at Harvard College; two nephews, William H. Reed, publisher of the *Taunton Gazette*, and the Rev. George Hale Reed, pastor of the Winchester Unitarian Church; and two nieces, Mrs. Charles W. Davol and Mrs. George W. Briggs, both of Taunton, Mass.

Alexander P. McKinnon

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., December 27, 1932—Alexander P. McKinnon, president of the A. P. McKinnon Company, Ltd., died here during the week after a brief illness. He was 59 years old, and resided at Westmount. Born in Prince Edward Island, Mr. McKinnon was educated in the public schools and entered the employ of the International Paper Company at Fort Edward, N. Y. Later he became associated with the Union Bag and Paper Company in Montreal. His next move was to the St. Regis Pulp and Paper Company, of which he ultimately became woods manager for Canada and the United States. This year he resigned this position to found his own company. One daughter, Miss Mary McKinnon, survives. The interment took place at Ballston Spa, N. Y.

Research on Lithographic Papers

The Lithographic Technical Foundation reports that its research on lithographic papers, carried on as a joint project with the U. S. Bureau of Standards, has been continued during the past year and has made good progress. The annual meeting of the Advisory Committee was held at the Bureau November 18, 1932, at which the following reports were made: General Status of Bureau Activities, by Mr. W. E. Emley, Chief, Division of Organic and Fibrous Materials; Status of Research on Lithographic Papers, by Mr. B. W. Scribner, Chief, Paper Section; Progress Report of Research on Lithographic Papers, by Mr. C. G. Weber, Technologist in charge of the work.

After a discussion of the results of the past year's work and the program of research for the coming year, the meeting adjourned and the Committee members were conducted on an interesting tour of inspection of the laboratories of the Paper Section.

To complete the study of causes of misregister it was necessary for the Bureau to install considerable new equipment to permit better operation of the small humidity room, the temperature and humidity of which can be varied over a wide range. This room was completed last July, and studies have been made on twelve lithographic papers which include the commercial and experimental papers previously subjected to practical printing tests. These studies were as follows:

1. Determination of the time required to condition papers with different moisture contents to equilibrium with an atmosphere of 45 per cent relative humidity.
2. Determination of the moisture contents of the various papers at various relative humidities from 28 to 72.5 per cent.
3. Determination of the variation of the equilibrium moisture content of the paper at various relative humidities, depending on the direction of approach.
4. Bursting strength, tensile strength, tearing strength, and folding endurance of the papers at various relative humidities.
5. Changes in dimensions of large sheets of the papers with known variations in relative humidity and comparison of these results with the abilities of the various papers to maintain register as found in the practical printing tests.

During the year, a report of the results of the practical printing tests, carried out in the plant of the American Lithographic Company in 1931, was completed and published in the Bureau of Standards Journal of Research for September, 1932. Reprints of this report are now available from the Superintendent of Documents, Government Printing Office, Washington, D. C., at five cents per copy. The title is "Research Paper No. 480, Register Study in Offset Lithography." It is an interesting fact that the results of the laboratory tests corroborate the evidence, obtained in the practical printing tests, that the degree of beating and jordanning of the stock determines its sensitivity to variations in atmospheric humidity. It is also important that all of the evidence obtained points to the neighborhood of 45 per cent relative humidity as the best atmospheric condition for the production of printing in register.

The future research program includes the completion of some of the laboratory work already begun, a detailed study of the hysteresis effect on the dimensions of papers, investigation of the effects of temperature changes on paper properties at a constant relative humidity, and determination of the effects of stresses on large sheets of paper at various relative humidities. In the discussion of this program, emphasis was placed on the importance of slight variations in flatness due to stresses set up in the sheet during the impression. Emphasis was also placed on the necessity for a study of theory and practice of paper conditioning.

The resources of the Bureau of Standards have suffered somewhat from the necessity for retrenchment during the past year. The importance of research on lithographic papers, however, is so great that one-third of the resources of the Paper Section have been allocated to it. It is expected that a second series of practical tests will be made during the coming year in the Lithographic Department of the U. S. Coast and Geodetic Survey in Washington.

Illinois Carton Co. Changes

[FROM OUR REGULAR CORRESPONDENT]

INDIANAPOLIS, Ind., December 27, 1932—A change in the executive personnel of the Illinois Carton & Label Co., at Elkhart, Ind., was announced recently. Frank E. Stapleford, who for 21 years was identified in an executive capacity with the United States Printing & Lithographing Co., of Cincinnati, has been made production manager, succeeding Robert Taylor, who has returned to Cincinnati.

Karl W. Schneider, of Elkhart, sales manager for the American Coating Mills, has been made sales manager for the carton company.

New York Trade Jottings

Gurney Security Paper Company has leased the entire ground floor of the building at 66 Front street, Brooklyn, N. Y.

* * *

English China Clay Sales Corporation, of 551 Fifth avenue, New York, has applied for membership in the National Association of Waste Material Dealers, Inc.

* * *

Regular weekly luncheons and meetings of the Eastern Division of the Salesmen's Association of the Paper Industry will be resumed Monday, January 9, at the Hotel Roosevelt, New York.

* * *

Beekman Card and Paper Company, of 137-141 Varick street, New York, have been appointed distributors of Notre Dame Intaglio cover and book papers, manufactured by the Peninsula Paper Company, of Ypsilanti, Mich.

* * *

International Mailing Tube and Wrapper Company, manufacturers of cardboard mailing tubes and paper products, has purchased a one-story terra cotta and stucco building containing 28,000 square feet, with railroad siding, on the north side of Review Avenue, between 29th and 30th streets, Long Island City, N. Y.

* * *

The December meeting of the board of directors of the National Association of Waste Material Dealers, Inc., was held at association headquarters on Tuesday afternoon, December 20, with R. W. Phillips, first vice-president, presiding. A message was read from President Birkenstein outlining plans for the association for the balance of the fiscal year. Present plans call for an interesting convention in March at Chicago and already members from various parts of the country have indicated their intention of attending irrespective of business conditions.

Josephus Goodfellow Dead

LAKE GEORGE, N. Y., December 27, 1932—Josephus Goodfellow, 74 years old, prominent Northern New York paper manufacturer for many years, died last night at the home of his daughter, Mrs. Robert Mitchell, at Dunhams Bay on Lake George. A brother, Frank Goodfellow of Fort Edward, also survives.

Born at Maltaville, Mr. Goodfellow moved to Fort Edward as a boy. On December 24, 1884, he married Miss E. Kathlene Odell at Fort Edward.

He was at one time superintendent and part owner of the Fort Edward Machine Works and he later engaged in the manufacture of wood pulp. He was president of the St. George Pulp and Paper Company for some years and a former director of the Glens Falls Trust Company.

He also at one time served as a director of the Schroon River Pulp and Paper Company and worked as general manager of that concern for several years. During his residence at Fort Edward he served as president of the village for one term. He spent the greater part of his life at Fort Edward, and only a few years ago went to live with his daughter at Lake George.

Government Paper Awards

WASHINGTON, D. C., December 28, 1932—Philip Rudolph & Son will furnish the Government Printing Office with 200 sheets of 26 x 38 pulp board at $13 per C sheets, bids for which were received on December 7.

Soviet Paper Plan Lags

Soviet Russia's progress in the production of paper during the past few years remains far behind the provisions of the five years' plan. The plan for 1931 provided for the production of 611,000 metric tons of paper, including 154,000 tons of news print, 105,000 tons of other printing paper, and 95,000 tons of writing paper. Actually, only 497,000 tons of paper, including 294,000 tons of news print, other printing, and writing papers, were produced. The plan for the current year (1932) provided originally for the output of 800,000 tons of paper, but in view of the disappointing results of last year's efforts, was later on reduced to 677,000 tons, according to the Moscow "IzvestiYa" on August 4, 1932. Of these 677,000 tons, 157,000 tons were to be produced in the first quarter, a similar quantity in the second, 177,000 tons in the third, and approximately 185,000 tons in the fourth quarter. In reality, however, only 122,500 tons were produced during the first three months of the year, and approximately 118,000 tons in the succeeding three months. As a result the output during the first half of the current year remained behind plan provisions by 77,000 tons of paper and 13,400 tons of cardboard, the deficit in printing and writing papers amounting to 41,200 tons.

News Print Production

Production of news print in Canada during November 1932 amounted to 161,334 tons and shipments to 164,327 tons, according to the News Print Service Bureau. Production in the United States was 81,662 tons and shipments 83,922 tons, making a total United States and Canadian news print production of 242,996 tons and shipments of 248,249 tons. During November, 21,195 tons of news print were made in Newfoundland and 844 tons in Mexico, so that the total North American production for the month amounted to 265,035 tons.

The Canadian mills produced 283,984 tons less in the first eleven months of 1932 than in the first eleven months of 1931, which was a decrease of 14 per cent. The output in the United States was 134,849 tons or 13 per cent less than for the first eleven months of 1931, in Newfoundland 20,369 tons or 8 per cent less, and in Mexico 2,190 tons less, making a North American decrease of 441,392 tons or 13 per cent.

Stocks of news print paper at Canadian mills totalled 45,461 tons at the end of November and at United States mills 30,581 tons, giving a combined total of 76,042 tons compared with 81,295 tons on October 31.

Paper Mill Employment

Both employment and payrolls picked up in the paper and pulp and paper box industries in October compared with September according to figures available at the Bureau of Labor Statistics, Department of Labor.

The Bureau received reports from 406 paper and pulp mills which gave their October employment at 78,871, an increase of 1.5 per cent over September but a decrease of 5.5 per cent under October of last year. The average weekly payrolls in October in these identical mills were $1,470,560 an increase of 5.3 per cent over September but a decrease of 20.5 per cent under October of last year.

Reports were also received from 310 paper box factories which gave their October employment at 20,833 an increase of 5.5 per cent over September but a decrease of 13.1 per cent under October of last year. The October average weekly payrolls in these identical plants were $386,569 an increase of 8.2 per cent over September but a decrease of 22.9 per cent under October of last year.

PAPER TRADE JOURNAL
ESTABLISHED 1872

Published at 34 North Crystal St., East Stroudsburg, Pa. Executive and Editorial Offices, 15 West 47th St., New York, N. Y.

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Price, Per Copy, 10 Cents United States, Per Annum, $4.00
Canada, including tax, $7.50; Foreign Countries in Postal Union, $6.00

Member Audit Bureau of Circulations

Vol. XCV New York, December 29, 1932 No. 26

COMING EVENTS

American Paper and Pulp Association, Fifty-Sixth Annual Convention and Meeting, Pennsylvania Hotel, New York, February 13-16. Luncheon, Thursday, February 16.

National Paper Trade Association of the United States, Convention, Pennsylvania Hotel, New York, February 13-15. Luncheon, Wednesday, February 15.

Technical Association of the Paper Industry, Convention, Pennsylvania Hotel, New York, February 13-16. Luncheons, Wednesday, February 15 and Thursday, February 16.

Salesmen's Association of the Paper Industry, Annual Meeting, Pennsylvania Hotel, New York, Tuesday, February 14. Luncheon, Tuesday, February 14.

New York Association of Dealers in Paper Mills' Supplies, Annual Banquet, Hotel Commodore, New York, Wednesday, February 14.

Canadian Pulp and Paper Association, Annual Meeting, Montreal, January 25-27.

PAPER EXPORTS IMPROVE

United States exports of paper and paper products in October were valued at $1,114,493, representing a slight decrease from those of the preceding month and a 35 per cent decrease from those of a year ago according to the Paper Division of the Department of Commerce. Placed beside the September figures, the following increases are noted: Papeteries (fancy writings), 156 per cent; other paper board, the exports of which amounted to $78,990, 42 per cent; envelopes, 33 per cent; vulcanized fiber, sheets, strips, rods and tubes, news print and book paper, each, 28 per cent; filing folders, index cards and other office forms, 25 per cent, wrapping paper and cover paper, each 18 per cent; tissue and crepe paper, 12 per cent, other writing paper, 8 per cent; while very slight increases occurred in bristols and bristol board, blotting paper, paper bags and cash register and adding machine paper and very slight decreases in wall board of paper or pulp, and box board.

The heaviest loss compared with September is shown in boxes and cartons, which amounted to $38,208, or a decrease of 36 per cent, followed by surface coated papers, which were 35 per cent lower and sheathing and building paper which recorded a decrease of 32 per cent. Other losses over the September figures were as follows: Paper towels and napkins and wall paper, each 20 per cent; toilet paper, overissue and old newspapers and fiber insulating lath or board, each 10 per cent.

Contrasted with a year ago, the following increases are noted: Tissue and crepe paper, 38 per cent; and slight increases in overissue and old newspaper, surface coated papers, bristols and bristol board, and blotting paper, while heavy decreases were sustained by cover paper, wrapping paper, toilet paper, paper towels and napkins box board, other paper board, sheathing and building paper, wall board of paper or pulp, other writing paper, wall paper, paper bags, boxes and cartons, vulcanized fiber sheets, strips, rods and tubes and cash register and adding machine paper, but only a slight decrease occurred in fancy writing papers.

October exports of paper stocks amounted to $245,918, an increase of 25 per cent over the September figure, but a decrease of 21 per cent compared with a year ago. Pulp wood exports were valued at $10,433 against $2,164 in September, and $41,352 in October, 1931. Those of sulphite wood pulp, with a valuation of $187,992, represented an increase of 33 per cent over the September figure, but a decrease of 18 per cent from those of a year ago, while soda pulp registered a slight increase when compared with the preceding month, but a 40 per cent increase when compared with a year ago. Rag exports were valued at $38,168, or a decrease of 18 per cent from September figure and a 21 per cent decrease from those of a year ago.

Imports of paper and paper products in October were valued at $7,371,339 a 15 per cent increase from September figure, but a 30 per cent decrease from those of October, 1931. Standard news print imports, which were valued at $6,771,367, showed a slight increase over the preceding month but were 30 per cent lower than a year ago. Imports of cigarette paper, books and covers were comparatively low, amounting to $155,356, compared with $280,378 in the preceding month and $461,874 a year ago. Very heavy increases over the preceding month are noted in imports of duplex decalcomania paper, not printed, leather board, text and wall board, tissue and similar papers, paper boxes, and writing and drawing papers, while Kraft wrapping paper, other wrapping paper and leather board, test and wall board imports were considerably heavier than a year ago, whereas imports of paper and envelope combinations, uncoated paper, decorated, or embossed; surface coated papers, greaseproof and waterproof paper, and pulpboard in rolls were considerably lighter, than both in the preceding month and in the corresponding month last year.

Imports of paper base stocks were valued at $5,010,263, representing an increase of 27 per cent over September, but a 20 per cent decrease over October, 1931. Pulpwood imports totaled $609,052, being 40 per cent lower than a year ago and 20 per cent lower than in September. Peeled spruce imports were valued at $478,280, a decrease of 27 per cent from September and a 23 per cent decrease from those of a year ago, while rough spruce imports which

were valued at $74,359 showed decreases of 33 per cent and 50 per cent, respectively, when compared with the preceding month and the same month of last year.

Compared with the preceding month the following increases are noted: Bleached mechanically ground wood pulp, 86 per cent; soda pulp, 95 per cent; unbleached sulphate pulp, 55 per cent; sulphite pulp, bleached, 53 per cent, unbleached, 40 per cent; bleached sulphate pulp, 15 per cent; rags for paper stock, 72 per cent.

When placed beside the figures of a year ago, the following increases occurred: Bleached ground wood pulp, 72 per cent; other pulp, 53 per cent; bleached sulphite pulp, 10 per cent. Imports of ground wood pulp, unbleached, with a valuation of $229,826, showed a decrease of 15 per cent from September and a 40 per cent decrease from the figure of a year ago, while imports of unbleached sulphite wood pulp were 30 per cent lower than a year ago.

Spring Succeeds Baker As Dean

SYRACUSE, N. Y., December 27, 1932—The appointment of Samuel N. Spring as Dean of the New York State College of Forestry at Syracuse and Clyde Leavitt as Acting Assistant Dean was announced today by Chancellor Charles W. Flint of Syracuse University in a talk before the student body of the college. Chancellor Flint spoke as a trustee of the college and representing a special committee of the board on the deanship consisting of the executive committee of the board, William H. Kelly, Chairman, Edward H. O'Hara, and Justice Edmund H. Lewis, and on which the board had asked Commissioner Frank P. Graves and Chancellor Flint to serve.

Dean Spring, who has been Assistant Dean of the college succeeds Dr. Hugh P. Baker who is leaving February 1 to assume the Presidency of Massachusetts State College at Amherst, Massachusetts. Mr. Leavitt, who takes up the duties of the position vacated by Dean Spring, has been Acting Director of Forest Research at the college.

In making these appointments, the executive committee of the trustees is bringing together in the administration of the college a wide scholastic, state and federal executive experience in Dean Spring and a most comprehensive background of practical administrative forestry in Mr. Leavitt.

Franklin Paper Co. Sets Up New Machine

[FROM OUR REGULAR CORRESPONDENT]

HOLYOKE, Mass., December 27, 1932—The Franklin Paper Company of this city has bought a 102 inch, five cylinder paper machine from the Lucerne Paper Company of Hadley, N. Y., which recently liquidated. Part of the machinery has arrived and the remainder will arrive shortly. James B. Ramage, treasurer of the Company, said this week that it would probably be two or three months before the new machine was set up and operating. It takes the place of the present machine which trims to 58 inches while the new machine will trim to 93 inches nearly doubling the output when necessary.

Just now the additional production is not needed but with the coming of increased business the new machine can handle it for a while at any rate. The machine was bought for future rather than present needs, Mr. Ramage said. This is the first important addition to paper mill equipment in Holyoke for some time. The Franklin company manufactures white and colored bristols and cards of many kinds.

Mead Corp. Buys Dill & Collins Co.

[FROM OUR REGULAR CORRESPONDENT]

DAYTON, Ohio, December 26, 1932—Consolidation of the general offices of the Mead Corporation with consequent removal of a portion of the personnel to Chillicothe on May 1, was announced from the offices of the company in the Callahan Building, December 23.

At the same time it was announced that the Mead Corporation had acquired the plant of the Dill & Collins Company at Philadelphia and would operate it hereafter as a part of its large activities.

Three officers of the Mead Corporation will leave Dayton as the result of the consolidation. They are Alan G. Goldsmith, secretary; Speed Warren, treasurer and Al H. Mahrt, assistant treasurer. All are well known in the financial and social circles of the city.

George H. Mead, president of the Mead Corporation and other companies concerned with the paper industry, and Robert T. Houk, Sr., vice-president, will continue to make Dayton their home.

The Dill & Collins Company has been acquired by the Mead Corporation as the result of taking over a receivership extending over the past year, court order of December 15 allowing the transaction, which was effected largely through an exchange of stock. The local company holds a controlling interest.

It is understood that the value of the Philadelphia plant is more than $1,000,000.

The plant manufactures high grade book and coated papers and will hereafter be known as Dill & Collins, Inc.

No change is being made in the official lineup of the company, Grellett Collins remaining as president and in charge of operations, but four men of the Mead Corporation are represented on the new board of directors.

They are George H. Mead, Sidney Ferguson, H. P. Caruth and C. R. Vandecarr, Jr. Mr. Mead is president and the other three are vice-presidents of the Mead Corporation.

The plant has a capacity of 60 tons daily when operating at capacity. The company has its own sales organization and will continue to distribute its product through it.

New Robert Gair Divisions

To meet the demand of present-day conditions for greater specialization in production and sales, the Robert Gair Company, Inc., manufacturers of paper board products, has created three major divisions to handle its production and selling of box board, containers and folding cartons, according to an announcement today by E. Victor Donaldson, President.

The Box Board Division will be headed by Robert H. Bursch, who will have charge of both manufacturing and sales. Box board is produced by the Robert Gair Company, Inc., in its mills at Piermont and Tonowanda, N. Y.; New London, Conn.; Haverhill and Medford, Mass.; Bogota, N. J.; and Quincy, Ill.

L. H. Gaetz will continue in charge of production of the Folding Carton Division.

F. S. Wakeman, has been appointed general sales manager for the Folding Carton Division. He will continue in charge of the New York Sales Department.

F. G. Becker has been appointed general manager of the Container Group of Gair Plants at New London and Shelton, Conn.; Medford, Mass.; Bogota, N. J., and Providence, R. I. Mr. Donaldson also announced the appointment of Chase Flint as general sales manager of the Container Division. Both Mr. Becker and Mr. Flint were formerly associated with the Container Corporation of America in executive capacities.

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Section of the
Technical Association of the Pulp and Paper Industry
Edited by Ronald G. Macdonald, Secretary

Caustic Soda and the Pulp and Paper Industry*

Historical

Considering a relationship which was to develop later, it may rank as a coincidence that Nicola Leblanc, inventor of the first process for the quantity production of caustic soda, died a suicide and in poverty, in the same year in which our present type of paper machine was born. The invention of the fourdrinier paper machine in 1806, or thereabout, enabled the paper manufacturers to expand their production to keep pace with the growing demand of the world for paper.

Within a generation after machine made paper became available the industry had grown to such an extent that it was facing difficulty in procuring adequate supplies of rags, its principal raw material. It was evident that its rate of growth was so much more rapid than the expansion of the economic radius of collection, due to improved means of transportation, that there would never be rags enough to supply the demand. Paper manufacturers, therefore, began to look for substitutes for rags.

Rags came from textiles, from grasses and plants such as flax, hemp and cotton. It is natural, therefore, that the first efforts to find a new source of paper-making fiber were made with straw. Alkalies, lime and soda ash had been used in cooking rags in open vessels so the first experiments with straw were made in the same way but with indifferent success.

In 1854 a Frenchman by the name of Mellier patented a process for pulping straw by cooking with caustic soda in closed vessels at elevated temperatures, and pressures above atmospheric. This successful process was immediately followed by the American patents of Watt and Burgess (1854) for pulping wood by cooking with caustic soda in closed vessels under pressure. Higher pressures and concentrations were used than with straw. Indeed the succession of patents is so rapid that the investigations may have been entirely independent.

Papermaking pulp was first commercially produced from wood by Ladd and Keen operating under the Watt-Burgess patents at Royersford, Pa., in 1860, or slightly before. The first sulphite patents appear in 1866, but production did not follow until several years after.

The recovery of soda from the spent cooking liquor was an economic necessity from the first and developed with the cooking process. The recovery process may have been taken over with the straw cooking process of Mellier, if one process was merely an adaptation of the other, or the Leblanc soda process may have been directly responsible. The recovery process is so similar to the Leblanc process that the possibilities must have been obvious from the start.

The sulphate process appeared in 1880 as the result of an effort by Dahl to substitute the cheaper Glauber salt, or sodium sulphate, for soda ash to make up the caustic losses from the system. The sodium sulphate was added to the black ash furnaces for transformation to sodium carbonate as in the Leblanc process. The reduction of the sulphate to sulphide, evidently not anticipated by the experimentor, so softened the action of the cooking liquor on the wood that the result was not only economy in the price of raw materials, as expected, but also improved yields of pulp from the wood and improved quality of fiber. For some woods it is the only process which can be used at present to produce a bleachable pulp and unless some new process or source of fiber develops we will be driven to the use of the sulphate process by economic necessity. We cannot continue indefinitely to use up spruce faster than it grows.

It is interesting to observe that having turned from grasses to wood as a source of raw material, we are now investigating grasses again. There seems to be a growing conviction in many quarters that the future of the paper industry depends to a great extent on the use of annual crops, or those which reproduce themselves much more rapidly than woods, and much attention is being given to such materials as corn stalks, bagasse, flax, straw, bamboo, and the straws from wheat, rice, oats, etc.

Present Processes

There are now three accepted processes for the chemical reduction of wood to papermaking fiber: the soda process, the sulphate process and the sulphite process. The first two depend on caustic soda for their solvent power on the bonding material of the woods.

The practice in the caustic processes is briefly as follows. Wood chips and cooking liquor of proper causticity and amount are charged in a digester and brought to cooking temperature and pressure by the admission of steam. Cooking is continued for the time, and under the temperature conditions, found by experience to be best for the desired results. When cooking is complete, the content of the digester is blown out into pits where the spent cooking liquor with the organic matter dissolved from the wood is washed from the fiber. The cooking liquor may enter the digester containing 10 per cent caustic soda and leave with 1 per cent, or less, by titration. The reduction in per cent caustic content is caused partly by dilution by steam condensed in the digester, but is due chiefly to neutralization by organic acids.

The black liquor, as the material washed from the pulp is called, is evaporated until it is so viscous that it will

* This article is a compilation of contributions from a number of individuals and has been submitted by Robert T. Baldwin, secretary, Chlorine Institute and chairman, Caustic Soda Technical Committee, 50 East 41st Street, New York, N. Y.

scarcely flow. It is then led into rotary furnaces where it is burned. The combustible content of the black liquor introduced into the furnaces is just about enough to furnish heat to evaporate the remaining water and keep the fire burning. A wood fire, however, is generally kept burning in the mouth of the furnace to assure combustion. In the sulphate process sodium sulphate is added in a separate smelting process after burning the concentrated black liquor. This is added in amount sufficient to make up, wholly or in part, the caustic losses from the system.

The ash from the furnaces is leached and washed clean of sodium carbonate. There is a carbonaceous residue which is waste. The sodium carbonate or soda ash solution, green liquor, is pumped to causticizing tanks and there causticized with an equivalent amount of lime. In the straight soda process fresh soda ash is added to the green liquor in amount sufficient to make up the alkali loss in the system. In the sulphate process soda ash may be added here.

The calcium carbonate formed during causticizing is settled out and the clear, supernatant, caustic solution drawn off for use in the digesters as cooking liquor.

A 10 per cent solution of caustic soda is about as concentrated as it is possible to produce economically. Since this is about as concentrated as needed in the digesters there is no evaporation problem after causticizing.

Each of the two alkali processes is attended by to major byproduct disposal problems. The carbonaceous residue from leaching of black ash and the calcium carbonate, or lime mud, from the causticizing process are generally wasted. Where they cannot be dumped in a river they are settled in artificial ponds as fill. The most promising uses which approach complete utilization are reclaiming of the lime mud and the use of black ash waste as fuel. These processes, individually or combined, are in use in a number of plants.

While the pulp industry is an enormous user of caustic soda within itself it does not buy caustic as such. Each soda pulp plant must maintain its own causticizing plant for recovery of soda from black liquor. Being thus equipped, soda ash has been nearly as convenient to use for alkali makeup as caustic soda itself would be. The price difference between soda ash and caustic soda on an Na_2O basis has always permitted a profit on the causticizing process. This profit has always been large enough to warrant the operation for the purpose of causticizing make-up alkali alone, if the equipment had not been necessary to the internal process of the pulp plant. There would be some economic gains in using caustic as a make-up in that less lime would be required for causticizing and a more concentrated cooking liquor might be used. More concentrated cooking liquor would mean less process steam required in black liquor evaporation and less evaporating equipment. So far in chemical history the price differential between caustic soda and soda ash has never been small enough to favor the former, although recently some liquid caustic soda has been sold for this purpose.

The enormous amount of caustic soda handled by soda pulp plants may be visualized by considering that about 1000 pounds of caustic goes through the process for each ton of pulp produced. A plant producing 100 tons of pulp per day is not unusual. This would mean 50 tons of caustic handled per day or 15,000 tons per year or one fortieth of our total caustic consumption for the year 1931, and this is one 100 ton plant.

The question of quality of caustic has never been troublesome to the pulp manufacturer. Being a customer for his own product he has necessarily been reasonable. There has been slight danger of impurities which would color his pulp, his chief concern. Low causticity of cooking liquor with attendant high carbonate content does the pulp no harm provided he adjusts his digester charge to maintain the proper relation between caustic soda and wood. This condition—low causticity—is avoided as far as possible because of the attendant decreased efficiency of recovery.

When the lime is reclaimed a portion of it has to be discarded to prevent impurities building up in the causticizing system. These impurities are mostly iron, aluminum and silicon oxides. They reduce the causticity of the cooking liquor and affect the pulp only indirectly when they are allowed to build up in the system.

Mills which have their own electrolytic chlorine plants to supply their bleach requirements have found it advantageous to add the caustic soda produced to their cooking liquor, thus reducing their purchase of soda ash for loss make-up. This electrolytic caustic is first evaporated to a concentrated solution until most of the salt has crystallized out. The salt can then be removed, washed and returned to the cells. The small amount of salt added to the cooking liquor with the electrolytic caustic does no harm or good, as far as has been established. Concentration of electrolytic caustic is not carried far enough to precipitate other impurities with the salt, thus there has been no problem of disposal of "bottoms." While the pulp producer has not been able to buy caustic soda in the market to compete with soda ash in price he can be his own customer at a profit in consideration of the process, transportation and marketing costs saved.

Rags and Old Papers

Rags are still an important papermaking material and probably will be as long as they are available. The technic of their preparation has been changed somewhat because of our increased knowledge of wood pulp technology. Before the days of woodpulp the alkali used to remove grease, sizing and dirt from rags was almost universally lime. Probably most of the rags prepared today are cooked with caustic soda, though lime and soda ash are still used to some extent. In many cases the old open kiers have been replaced by closed rotary digesters.

The treatment varies widely with the character of the rags or fiber being prepared and ranges from a light lime boil for new, white rag cuttings to a digestion with caustic for cotton hull fiber or flax waste, which approaches in severity the treatment given poplar wood. In preparing the ordinary grades of rags the spent liquor is usually wasted since it is too dilute and the amount of soda too small to pay for evaporation and recovery.

It has been found possible and even advantageous in certain grades of paper, to use old printed papers as a source of fiber. When they are to be used for white papers they must be deinked by a process which is very similar to that used in the preparation of rags. The most popular process involves digestion with alkali at a temperature slightly below the atmospheric boiling point. The time of digestion is short but very violent agitation is maintained. The alkali used is often caustic soda, though lime and soda ash are also used. The spent liquor is usually wasted as in the cooking of rags.

Mills preparing rags and old papers and not operating in conjunction with a soda pulp plant find the purchase of solid or liquid caustic profitable. The relatively small amount used does not permit the profitable operation of a causticizing plant as in the preparation of woodpulp.

Papermaking

Caustic soda is used in papermaking in the preparation of rosin size. The old formulae for rosin size depend on

soda ash as the saponifying agent for the most part. The writer's experience is that size solutions prepared with caustic soda are more efficient. Papermakers are generally jealous of their size formulae and most of the size made at papermaking plants may still be prepared with soda ash. It is noteworthy, however, that a number of the newer installations for size making are again turning to caustic soda as the rosin solvent, claiming that the size so produced is considerably more efficient than that made by boiling rosin with soda ash.

Caustic soda is sometimes used in coating formulae, but when so used must be handled with extreme care to avoid excess. When used with caution it makes an excellent solvent for casein.

New Uses

A large war always increases the demand for cotton because such large quantities are needed for nitrating to make explosives. The world war was unusual in this respect in that the rayon industry and nitrocellulose lacquer industry were developing rapidly at the same time. The development of cellophane as an attendant of rayon reached enormous proportions directly after the war. These new industries were at first dependent on cotton but its scarcity turned attention to wood pulp as a source of cellulose for nitrating and viscose manufacture.

As a result of this demand a great number of patents have been taken out in the last ten years for the production of "purified wood pulp." Most of these seem to be modifications of the old Cross and Bevan method for the determination of cellulose in woody materials by alternate treatments with chlorine and an alkaline agent, and many of them mention the use of caustic soda as the alkaline agent. One chlorination and one caustic treatment are found to be sufficient for the purification of a pulp well prepared by the sulphite or sulphate process. Besides being protected by patents the actual technic of manufacture is a closely guarded trade secret by all concerns producing nitrating or viscose pulp. It is safely listed as a caustic-using pulping process, although lime is sometimes used.

Many of the chemically treated or "purified" wood pulps have properties which make them especially valuable for certain types of paper and their use is being extended quite rapidly. They are also being exploited as rag substitutes for use in papers which must have a very high degree of permanance, but their acceptance as the equal of high grade rag pulp seems to be open to reasonable doubt.

Another relatively new use for caustic soda in the pulp and paper industry is in connection with the so-called chlorination processes for producing pulp. These are virtually applications of the Cross and Bevan process on a large scale and depend for their results first, upon chlorination of the raw material and, second, upon solution of the chlorinated substances in alkaline solutions. These processes were developed largely to utilize chlorine but very considerable quantities of caustic soda are used in the alkaline stage of the process.

It must be evident from a consideration of the foregoing facts that caustic soda plays a very important part in pulp and paper making operations but that its functions are not such as to make strict quality specifications necessary, or even desirable.

Lake States TAPPI Discusses Bleaching

The regular monthly meeting of the Lake States Section of the Technical Association of the Pulp and Paper Industry was held on Tuesday, December 13, at the Conway Hotel, Appleton, Wis. The meeting was in charge of Chairman R. L. LeRoux. The next meeting of the American Chemical Society was announced as being due on the 15 of December. At this meeting Otto Kress, technical director of the Institute of Paper Chemistry, is to give an address on "Fibrous Materials used in Paper Making".

Power Transmission

Walter Ferris, vice-president of the Oil-gear Company, Milwaukee, Wis., delivered the first paper of the evening. The title of his paper was "Oilgear Power Transmissions in Paper Mills". He introduced his subject with a historical review of hydraulic power transmission and the gradual improvement up to the present day means of oilgear power transmissions by means of pumps and oilgear motors, which may be either of a constant speed design or a variable speed design. This mode of power transmission has not had many applications in the field of pulp and paper manufacture. The discussions of its use were primarily based on installations in other types of plants, particularly the rubber industry. There is, however, one mill which has a paper machine equipped with an oilgear drive. Greater flexibility is claimed for such a drive. An almost unbelievable speed range is claimed for the installation. Very high efficiencies are claimed for this type of equipment, the wear being a minimum. The talk was supplemented with lantern slides.

Pulp Bleaching

The second address of the evening was delivered by C. K. Boyer, superintendent of the Interlake Division of the Consolidated Water Power and Paper Company, Appleton, Wis. The title of this paper was "Modern Pulp Bleaching". Mr. Boyer gave a brief outline of the history of bleaching, pointing out the developments as bleach liquor, bleaching powder and today liquid chlorine came into use as bleaching agents. He pointed out the early work of Cross and Bevan and DeVain. The important factors in bleaching were then taken up. Time, temperature, concentration and the "experience factor" were in a general way elaborated upon, showing the relations existing between the above factors and, should the occasion arise, between continuous or batch operation. He stressed the necessity of careful sampling. Since the data obtained from a 100 gram sample of stock determines how much chlorine, lime, and bleach liquor is to be added, a representative sample is imperative. The modern bleaching equipment, such as used by a few of the mills today, was clearly outlined. Important factors controlling their estimation with regard to capacities and also resistance to both alkaline and acid conditions which are found to exist in the modern bleach plant were pointed out. The modern method of bleaching consists of a chlorination of stock at low density, a causticizing followed by a washing, concentration of density to about 16-18 per cent and a hypochlorite bleach, followed by a second stage wash. An interesting discussion followed the presentation of this paper.

The Materials Used in the Manufacture of Tracing Paper*

By Howard L. Vincent[1]

Abstract

Theoretical explanations of transparency, ability to take ink, discoloration and other characteristics of tracing papers are given. The transparentizing agents—vegetable oil, mineral oil, waxes, ethyl abietate and cellulose hydrate—are listed and their properties and behavior briefly discussed. A specification avoiding the present undesirable features of tracing papers is given.

Introduction

Information of value concerning the materials used in the preparation of tracing paper is not at present availble, since manufacturers have been reluctant to disclose the nature of their processes. If such information were placed disinterestedly in the hands of the consumer, he would be able to select his tracing paper on a more rational basis. Heretofore, the consumer has been forced to confine his specifications merely to the rag content of the untreated stock, but since practically all tracing papers made in this country are prepared from rag stock of good quality such specification offers no means of discriminating between good and bad tracing paper. The quality of a tracing paper is not entirely determined by the nature of the paper before treatment. The transparentizing agents and the care with which they are applied have far greater significance in the quality of the final product.

The author has investigated in the laboratory practically all the materials used by foreign and domestic manufacturers of tracing paper. It is the purpose of this article to list the more important of these materials and show what characteristics may be expected of the several types of tracing paper prepared with them. It is hoped that interest will be aroused which will prove beneficial to all; consumer, dealer and manufacturer.

General Considerations

Before discussing the actual materials it may be advisable to devote some space to a discussion of tracing paper in general. With the exception of hydrated cellulose, of which special mention is made below, and the natural tracing papers, which are no more than very thin bond papers, tracing paper or vellum is essentially an opaque paper which has been rendered transparent by special processes. The conversion is achieved by effecting certain changes in the optical system present in opaque paper. Fibers of cellulose are *per se* transparent, but in paper each fiber is surrounded by air and hence exhibits refraction and reflection, so that the whole is an infinitely complicated lens system. By displacing the air with a material in which the speed of light is comparable to that in cellulose, the refractive index may be brought to unity. The lens system is thus destroyed and light is transmitted with a minimum of internal reflection and distortion, so that a discernible image may be transmitted. Many materials will accomplish this, but the manufacturer is confronted by several problems other than transparency.

There is, for example, the question of drawing on the paper with ink. No doubt consumers who use ink have encountered tracing papers on which the ink gathers up in droplets as it is deposited by the pen. This invariably indicates improperly balanced surface tension. Fluid ink in contact with a surface exhibits the phenomena of interfacial surface tension in forming a common area or interface which tends to contract. This tendency is opposed by the force of gravity, which acts to spread the ink over a large area eventually one molecule in thickness. In many cases interfacial tension overcomes gravity and causes the ink to gather into lenticular droplets representing a minimum area of contact in spite of the high contrary pressure due to gravity. The strength of the interfacial tension, and hence its ability to overcome gravity, is not determined by the physical condition of the surface, but by the chemical structure of the materials composing it, i. e., the transparentizing agents. By proper choice of materials it is possible to attain an interfacial tension precisely equal to the spreading force of gravity. If the tension is above or below this critical point the ink either gathers or spreads. The nicety of the balance required has been shown in the work of Harkins and Feldman (*1*), who made an exhaustive mathematical and experimental study of the phenomenon of spreading.

Materials

With these exemplary theoretical views in mind we may discuss the actual materials in use grouping them according to the distinct types of tracing paper which they produce. It should be borne in mind that these materials are rarely the sole components of formulae, but are the basic substances to which the characteristics of the paper may be attributed.

VEGETABLE OILS

The oldest and still most widely used transparentizing agents are the vegetable oils. These are esters of long chained fatty acids and glycerol with varying degrees of unsaturation according to their drying properties. Through a process induced by oxidation the molecules polymerize to aggregates of colloidal magnitude, so that the oil is converted from a viscous fluid to a gel. The exact mechanism of oxidation and polymerization is not known, but Stephens (*2*) has recently presented an interesting and plausible view based on the new chain reaction theory. The gel is in many ways well suited to the preparation of tracing paper as it is tough, elastic and transparent. It is not difficult to adjust its interfacial tension with respect to ink to the proper critical point and being a solid gives better erasing qualities than liquid materials. However, it is not entirely stable and undergoes further oxidation resulting in degradation of the gel structure, production of some acidity *(4)* and, perhaps most serious of all, the gradual development of a yellow color. This last has received considerable attention, but the precise reactions leading to yellowing are still unknown. Recently Elm and Standen (*3*) have thrown light on the problem by pointing out the possible formation of yellow diketo compounds by progressive oxidation of double bonds. The utter hopelessness of finding inhibitors to curtail the degradation of oil gels has been intimated by Stephens (loc. cit.).

A paper prepared with vegetable oils may be expected to turn yellow with age and to develop strong odor. Its

* Reprinted from the International Blue Printer, November 1932.
[1] Research chemist, George Vincent, Inc., New York, N. Y.

original transparency is better and is retained longer than most papers prepared with mineral oil or wax (see below). When properly manufactured a vegetable oil tracing paper takes ink well and permits satisfactory erasure. It loses strength much more slowly than hydrated cellulose paper (see below).

Mineral Oils

The recent demand for tracing papers which would not discolor has led to the use of chemically stable materials such as the highly refined mineral oils. Suitable grades approach medicinal quality in their freedom from color and odor. The process of refining removes all olefinic and sulphur bodies leaving only the inert polynaphthenes *(5)*, which are saturated cyclic hydrocarbons. No chemical changes occur in tracing papers prepared with mineral oils, but certain irremediable physical properties are distinctly disadvantageous. The most serious objection to mineral oil is its surface tension, which according to the writer's experience is incapable of proper adjustment. It prevents the formation of solid ink lines as previously explained and also through capillary action *(6)* causes the oil to wet the particles of graphite in pencil lines and so firmly bind them to the surface of the paper that a rubber eraser cannot cleanly remove them, but merely spreads the graphite in a smudge. The same capillary force, however, causes the oil to withdraw into the interior of the paper. Hence, if small quantities of oil are used for impregnation, little is left on the surface of the paper with consequent reduction of its disastrous surface tensional effects. There is a definite mathematical limit to the amount of this oil that may be used, which is insufficient to afford complete displacement of the air in the paper; therefore the transparency is poor. This low transparency is subject to further reduction by evaporation. Although the vapor pressure of mineral oil at ordinary temperatures is small, it is by no means negligible. Evaporation does occur and ultimately results in almost complete loss of the original transparency.

With these factors in mind it is possible to explain the observed limitations of mineral oil tracing paper. If a paper thus prepared has good transparency, it will not take ink nor erase properly. If it successfully fulfills the latter conditions, then it is of necessity deficient in transparency and is also subject to the effects of humidity. Cellulose on absorbing moisture swells and on a damp day such a tracing paper acts as a sponge by squeezing the oil in the interior to the surface where it exerts its surface tensional characteristics. In dry weather the oil retires to its normal position. Finally it must be said that a mineral oil tracing paper is odorless and colorless and will remain so indefinitely because of the extreme resistance of polynaphthenes to oxidation and other chemical reactions. Its only response to aging is its gradual loss of transparency.

Waxes

In attempting to overcome the disadvantages of mineral oil some manufacturers employ waxy materials. Waxes vary in composition depending on their source, but they are all low melting solids with weak powers of crystallization. Chemically they are quite stable and are also nonvolatile, so that they are adapted to the manufacture of odorless and colorless tracing papers. However, they are crystalline and lack glass-like transparency. Crystallization may proceed very slowly in waxes with a gradual change from translucent homogeneity to opaque heterogeneity. Their surface tensional characteristics, while not perfect for ink, are nevertheless better than those of mineral oil, due probably to the solidity of waxes and hence resistance to molecular orientation which has been shown by Langmuir (*7*) to play a very important role in surface phenomena. Again, the solid nature of waxes gives some advantage over the liquid mineral oils in the matter of erasing pencil marks since there can be no wetting action.

In general it may be said that tracing papers prepared with wax have poor transparency subject on aging to some loss by crystallization. They erase well and may or may not take ink depending on the nature and amount of wax present. They are colorless and odorless and in so far as the author is aware remain so permanently.

Methyl and Ethyl Abietate

Within the last few years derivatives of rosin have been produced commercially for use as plasticizers in nitrocellulose lacquer. Rosin is largely abietic acid, a partly hydrogenated methyl isopropyl phenanthrene carboxylic acid, containing one olefinic linkage which is readily opened by atmospheric oxygen (*8*). Ethyl and methyl abietate, esters of this acid, are viscous oils with a characteristic odor. Through autocatalytic oxidation similar to that observed in the drying oils, they slowly solidify, yielding a substance with good surface tensional properties, but subject to further oxidation and discoloration. While quite suitable as lacquer plasticizers, they cannot be applied to paper without pronounced discoloration on aging. The author has obtained some evidence that this discoloration in paper is due to oxidation and dehydration of the cellulose by peroxide and unsaturated bonds of ethyl abietate, but the evidence is not conclusive and cannot be stated at this time.

In the manufacture of tracing paper the use of the abietic esters represents no great advantage over the older drying oils. There is the usual gradual loss of transparency and strength. While the vegetable oils develop a disagreeable odor, the pleasant fragrance of the abietic esters persists. Samples of paper in which these esters are present have been observed to discolor appreciably in six months.

Hydrated Cellulose

Not all tracing papers are transparentized by impregnation processes. Hydrated cellulose acquires its ultimate transparency in the pulp state before it is formed into a sheet of paper. Upon excessive and severe beating cellulose fibers absorb water and become gelatinous. When such highly beaten stock is flowed on the wire of the fourdrinier machine, the pulp forms a homogeneous mass from which water drains very slowly. Upon drying a heavy sheet of paper is formed which contains practically no air in the fiber interspaces and hence is transparent. The severity of the beating process largely destroys the fiber structure and the paper lacks one very necessary property of tracing paper, i.e., strength. Such paper also loses what little strength it has on aging. The author is not alone in the opinion that cellulose suffers chemical changes as well as physical in such excessive beating, which renders the molecule more susceptible to oxidation, but there are many who do not hold this view (*10*).

Hydrated cellulose papers because of their poor fiber structure have high tensile and bursting strengths, but very low tearing strength and folding endurance, these last most closely stimulating actual conditions of use. They have an excellent working surface for ink and pencil, erasing with especial ease. They do not discolor with age except when the fibers have received improper purification prior to the beating process. However, hydrated cellulose has such low strength retention that it cannot be considered suitable for permanent records.

Conclusion

From the above list it will appear that no tracing paper

is at present free from faults. What may be achieved in the future cannot be said at this time. The following specifications of a "perfect" tracing paper have been the goal of the author's investigations in recent years:

Thickness—0.0025-0.0030 inches.
Transparency—contrast ratio 0.25-0.30.
Tensile strength—6.0 kg.
Mullen bursting strength—45 points.
Elmendorf tearing strength—75-100 grams.
Schopper folding endurance—1,000 double folds.
Strength retention on accelerated aging (9)—90 per cent.
Ingersoll glarimeter finish—40.
Ink—equal to ordinary rag bond.
Water colors—applicable without buckling.
Color—the same as the untreated stock.
Odor—none.

The loss of any property should not exceed ten per cent in several years of cool, dry storage.

(1) Harkins and Feldman, *J. Am. Chem. Soc.*, 44, 2665 (1922).
(2) Stephens, *J. Ind. Eng. Chem.*, 24, 918 (1932).
(3) Elm and Standen, *J. Ind. Eng. Chem.*, 24, 1044 (1932).
(4) For the types and amounts of organic acids formed in degradation of oxyns see Merzbacher, *Chem. Umschau Fette, Oele, Wachse u. Harze*, 36, 339 (1929).
(5) Burrell, *J. Ind. Eng. Chem.*, 20, 603 (1928).
(6) For a theoretical discussion of capillary forces and their relation to surface tension see Lord Rayleigh, *Proc. Roy Soc.*, A-92, 184 (1915.
(7) Langmuir, *J. Am. Chem. Soc.*, 39, 1848 (1917).
(8) For recent knowledge as to the structure of abietic acid see Shaw and Sebrell, *J. Ind. Eng. Chem.*, 18, 612 (1926).
(9) Richter, *J. Ind. Eng. Chem.*, 23, 371 (1931).
(10) Campbell, *Paper Trade Journal*, XCV, No. 8, 29 (Aug. 25, 1932).

Continental-Diamond Improvement

The J. O. Ross Engineering Corporation has recently completed the rebuilding of the Stratton Furnace Settings installed several years ago at the Bridgeport, Pa., plant of the Continental-Diamond Fibre Company.

Originally, two Stratton furnaces were installed under two Heine 435 H.P. boilers in battery setting and designed to operate at 200 per cent rating. Recently, however, it was decided to remove the center wall to a point just above the first tube row and convert the two units into one with an output of 45,000 to 50,000 pounds of steam per hour.

This has been done and the unit is now running steadily at that output with an average actual evaporation of 11.2 pounds of steam per pound of coal.

One-half inch bituminous slack is run through a hammer mill with ¼ inch screen, then fed direct to the furnace and burned in suspension. There is no noticeable discharge of fly ash from the stack.

Much interest in this installation has been noted in the Philadelphia district.

John F. O. Stratton, the inventor of the furnace, was in charge of this work for the J. O. Ross Engineering Corporation. The whole improvement was under the direction of C. S. Rankin, power engineer, and is in line with the up-to-the-minute policy of this progressive company.

New Magnus Chemical Pamphlets

Magnus Chemical Company, of 28 South Avenue, Garwood, N. J., have just published two new pamphlets, entitled respectively, "Slime, a Curse in a Paper Mill and Its Cure", and "Longer Life for Your Felts Means Larger Profits for Your Mill." The former bulletin describes the modern method of slime removal by Magnus Slime Remover, and the latter bulletin the efficiency of Magnus Felt Soap.

Copies may be obtained upon application.

Paper at the Century of Progress

Rothschild, Wis., Dec. 20, 1932.

EDITOR PAPER TRADE JOURNAL

Since many people have asked what participation the pulp and paper industry will have in the 1933 Chicago Century of Progress, the following facts are offered at this time.

In December 1929, at the request of the National Research Council, a committee was appointed to formulate plans for an exhibit which would fittingly represent our industry. The members of that committee are R. A. Hayward, H. G. Ingraham, K. T. King, W. G. MacNaughton, and the writer. This committee collaborated with the Century of Progress and presented definite plans to the American Paper and Pulp Association as outlined in the PAPER TRADE JOURNAL for November 5, 1931. It was pointed out that collective action by the industry was desirable and that space could be obtained for the complete five months period of the Exposition at the rate of $10 per net square foot, thereby allowing for advertising by the individual companies and for a central exhibit for the industry as a whole.

Interested companies were urged to contact with the American Paper and Pulp Association. However few mills responded so that the committee then secured the cooperation of C. W. Boyce, executive secretary, A.P.P.A., who lent his assistance in further presenting the matter to the industry. Two letters were sent out at intervals, giving full information concerning the purposes of the Exposition, the advertising value which it represented to the industry and the basis upon which mills could participate. However only about a dozen mills have definitely expressed a desire to participate.

Recently the Salesmen's Association of the Paper Industry presented a plan suggested by W. B. Wheelwright, wherein there would be a house in which the various accessories would be made of paper. Phil A. Howard, publisher of the *Paper Merchant*, then suggested the possibility of combining the various proposals, forming the Paper Foundation, an Illinois corporation not for profit. This Foundation is to have a managing director, treasurer and a board of governors, including representatives of the various associations in the paper industry. A location has been tentatively assigned for the pulp and paper industry, a meeting of the board of governors is to be called shortly and an energetic presentation of the plan is to be made to the industry.

In view of this arrangement the present committee has served its purpose, is now dissolved and any future plans regarding the pulp and paper exhibit will be handled through the Paper Foundation, Conway Building, Chicago, Illinois.

Yours very truly,
ALLEN ABRAMS,
Chairman Subcommittee on Pulp and Paper
Exhibit A Century of Progress

New Morse Chain Bulletin

The Morse Chain Company, Ithaca, N. Y., has just issued a bulletin describing their Roller Chain Drives. About every bit of information one could desire relative to their Roller Chain Drives is embodied in the text matter contained in this bulletin. It covers fully details of construction and by picture illustrates the many types of equipment to which this new drive has been applied. A copy of this bulletin may be had by writing to the Morse Chain Company at their home office, Ithaca, N. Y.

Pulp and Paper Industry Literature Review

Abstracts of Articles and Patents Compiled by the Abstracts and Bibliography Committee of the Technical Association of the Pulp and Paper Industry, A. Papineau-Couture, John F. Ohlson, C. E. Peterson and Clarence J. West, Chairman

The National Research Council, 21st and B Street, Washington, D. C., through Dr. Clarence J. West, extends the courtesy of its photostat service to members of the Technical Association of the Pulp and Paper Industry. Owing to a limitation of personnel and time, this service cannot be extended to non-members.

The charge for the photostat service is: 9 x 11 inches—.8 cents per page, 18 x 11 inches—35 cents per page, 22 x 18 inches—70 cents per page, minimum charge, 50 cents.

Payment should be made upon receipt of invoice.

Copies of United States Patents can be obtained from the United States Patent Office, Washington, D. C., for 10 cents each. Send currency, not stamps.

Raw Materials

Flour in Wood Pulp. Per Klem. Paper Baker & Brit. Paper Trade J. 83:TS116-119 (March 1, 1932).—A brief description of the structure of wood and fibers, to be used as a basis for investigation of the production of "fiber" and "flour" in wood grinding.—A. P.-C.

Woods of Karafuto. M. Shikata and M. Ishisaki. J. Cellulose Ind. Tokyo 8:23-25 (1932).—Of the two chief pulpwoods of the Karafuto district, "ezo" spruces differ from "todo" firs in yielding a slightly higher percentage of alpha-cellulose when cooked with the usual bisulphite liquors. Many chemical analyses are given to show how the species differ among themselves.—A. P.-C.

Bamboo Pulp Experiments in India. Paper Maker & Brit. Paper Trade J. International No.: 35-36 (1932).—A brief description of the mechanical and chemical treatments used in the pulping of bamboo by the process developed at the Dehra Dun Forest Research Institute.

Danube Reeds. World's Paper Trade Rev. 98; 468-472 (Aug. 12, 1932).—A brief discussion of their merits as a paper making material, particularly as a substitute for esparto.—A. P.-C.

Chemical Investigation of Bamboo Cellulose. V. Sutezo Oguri. J. Soc. Chem. Ind. Japan 35 (Supp. Binding): 347-348 (Aug. 1932).—Analysis of two samples of bamboo stalk (*Phyllostachys edulis* A et Reviere) gave the following results: ash 1.01, 1.67; hot-water-soluble 7.50, 13.27; pentosans 26.28, —; cellulose (Cross and Bevan) 51.88, 47.83; alpha-cellulose 35.58, 36.96%. The alpha-cellulose contained: moisture 7.70, ash 0.10, pentosans 8.35%.—A. P.-C.

De-Inking Solution. W. Lewis. Belg. pat. 384,981 (Jan. 30, 1932).—Waste paper is immersed in a solution containing 5 parts of waterglass, 1 part of soda ash, 2 parts of caustic soda and a suitable amount of water. The excess of de-inking solution is then pressed out of the pulp.—A. P.-C.

Recovery of By-Products of Sugar Extraction. Eugenio A. Vasquez assignor to Vazcane Process, Inc. U. S. pat. 1,876,522 (Sept. 6, 1932).—Bagasse resulting from the extraction of sugar from sugar cane by the usual process is stored in a solution of lime until the normal period of operation of the sugar mill is completed. The bagasse and treating solution are then returned to the sugar mill and subjected to treatment analogous to that of the sugar extraction process to obtain fiber, pulp and other by-products.—A. P.-C.

Flax and Its Utilization for Paper Making. R. Isnard. Papier 35:953-961 (Sept., 1932).—An address outlining the process used by the Etablissements Lemaire-Destombes et Cie. for the production of pulp from flax fiber that is too short to be spun, and of the various grades of paper in which this pulp is used.—A. P.-C.

Bagasse Cellulose. D. F. J. Lynch and M. J. Goss. Ind. Eng. Chem. 24:1249-1254 (Nov., 1932).—Optimum conditions for the production of cellulose from bagasse by the soda, sulphate, and neutral sulphite processes were determined. By rigid control of conditions slightly higher yields of cellulose can be obtained than those previously reported. A study of the nitric acid process showed a higher recovery of cellulose with higher alpha-cellulose content than by the other processes, and it is considered that this process has commercial possibilities.—A. P.-C.

Chemical Investigations of Bamboo Cellulose. VII. The Water Soluble Matter of Bamboo. Sutezo Oguri. J. Soc. Chem. Ind. (Japan) 35 (Supp. Binding): 399-400 (Aug. 1932).—The water-soluble portion of bamboo (Moso-chiku) contains approximately 76% of alcohol-soluble, the greater portion of which consists of dextrose or fructose, indicating that the greater part of the water-soluble fraction of Moso-chiku consists of polysaccharides yielding dextrose or fructose. On the whole bamboo contains more water-soluble matter than wood, which explains why bamboo decays more easily than wood.—A. P.-C.

Cellulose from Cotton Hulls. N. Chetverikov. Masloboino-Zhirovoe Delo 2:34-39 (1932); C. A. 26:6120.—Cotton hulls contain 20-30 per cent of cotton fibers and are a valuable source of cellulose of high quality. By boiling the hulls for five hours with a 6-7 per cent sodium hydroxide solution, the author succeeded in separating the fibers from the hulls and obtained a cellulose of a 96.6 per cent cellulose content.—C. J. W.

Researches on the use of a long linder-tree fiber for the production of paper. Camillo Levi. Boll. staz. aper. ind. carta e studio fibre tessili vegetali 11:40 (1932); C. A. 26:6131.—A material having long yellow fibers of little uniformity and irregular resistance and dimensions on chemical examination showed 77.4% cellulose, 13.1% loss on alpha-hydrolysis, 14.5% on beta-hydrolysis and 2.1% ash. The fiber was suitable for producing gray pulps for packing paper.—C. J. W.

The Olivillo Tree. Walter Zembritzki. Papier-Fabr. 30, No. 32:499-500 (Aug. 7, 1932).—Report on a cook with this wood from a tree in Brazil which resembles red beech. One cubic meter of this wood yielded 158 kilograms of brown pulp which can be bleached white and produces a good paper. However, the occurrence of this wood is not great enough to warrant the building of a mill. The experiments were carried out in Thodeschen Papierfabrik, Hainsberg, Dresden, Germany.—J. F. O.

Cellulose and Lignin

Fixation of Water by Cellulose. G. Champetier. Compt. Rend. Acad. Sciences 195:280-282 (1932).—Water is fixed by cellulose in strict stoichiometric proportions and indicates the existence of two types of hydration in accord-

ance with the following formulas: $2C_6H_{10}O_5.H_2O$ for ordinary cellulose and $C_6H_{10}O_5.H_2O$ for mercerized cellulose.—A. P.-C.

Cellulose. J. Duclaux. Papeterie 54: 935-942, 1005-1010 (Sept. 10, 25, 1932).—A review of results obtained by modern methods of investigation of the constitution and structure of cellulose, showing what they may be expected to give and warning against extreme deductions which are not warranted by experimental results.—A. P.-C.

The Botanical Classification of Cellulose Sources for Paper Making. James Strachan. Paper Maker & Brit. Paper Trade J. 84: TS241-243 (Aug. 2, 1932).—A brief summary of 20 families including practically all plants of practical interest to the paper maker.—A. P.-C.

The Differentiation of Hemicelluloses. L. F. Hawley and A. Geoffrey Norman. Ind. Eng. Chem. 24: 1190-1194 (Oct. 1932).—Recent work on hemicelluloses from many sources is reviewed and correlated, so that the results of conventional analytical methods may be interpreted more correctly in terms of actual constituents. Bibliography of 41 references.—A. P.-C.

Comparison of the Viscosity Determination on Linters and Pulps and the Acetyl Cellulose Produced Therefrom in Relation to the Acetylation Process. K. Werner. Cellulosechemie 12, No. 12: 320-328 (Dec. 6, 1931).—J. F. O.

The Splitting up of Wood into Cellulose and Nitrolignine. K. Kurschner. Cellulosechemie 12, No. 11: 281-286 (Nov. 1, 1931).—J. F. O.

Oxygen as an Important Factor in the Formation of Wood. Carl Schwalbe and Karl Erik Neumann. Cellulosechemie 12, No. 11: 287-290 (Nov. 1, 1931).—J. F. O.

System for Celluloses Based on its Viscosity in Solution. H. Fikentscher, Cellulosechemie 13, No. 3: 58-64; No. 4: 71-74. (Mar. 6, Apr. 3, 1932).—J.F.O.

The Chain Length of Cellulose of Native Composition and the Chain Length of Acetyl Xylan of Deciduous Woods. Erich Schmidt, Karl Meinel, Wilhelm Jandebuer and Wilhelm Simson. Cellulosechemie 13, No. 8/9: 129-139 (Aug. 7, 1932.) Discussion of the carboxyl groups of cellulose of native composition, the carboxyl groups of the remnants of the skeleton substance and the acetyl xylan of the deciduous woods, the conductometric titration of the carboxyl groups of poly saccharides, and the assumption of a nester like bond between cellulose and ecetyl xylan in the deciduous woods.—J.F.O.

The Structure of Cellulose and Lignin. D. Kruger. Zellstoff Papier, 12, No. 8: 321-324; No. 9; 357-359 (Aug., Sept., 1932). A summary of the important experiments conducted during the past year. There are two well supported theories of the structure of the cellulose molecule, one group of investigators holds that the cellulose molecule consists of an unusually long chain of atoms while the minority of investigators say that it is a small molecule. The lignin molecule is either of an aromatic nature or aliphatic. Several structural formulas are given and discussed.—J. F. O.

Summary of the Investigations on the Chemistry of Coniferous Woods. Peter Klason. Cellulosechemie 13, No. 7: 113-119 (July 3, 1932). An excellent resume of the important facts known about the chemistry of lignin and cellulose. Every paragraph containing valuable information.—J. F. O.

Concerning the Knowledge of Wood Sap. 1. The sap of the red beech (fagus sylvatica). Carl G. Schwalbe and Willibald Ender. Cellulosechemie 12, No. 12: 316-318, (Dec. 6, 1931).—J. F. O.

Concerning the Chemical Synthesis of Red Beech Wood. Roland Runkel and Gustav Lange. Cellulosechemie 12, No. 7: 185-200 (July 5, 1931).—J. F. O.

The Preparation of Skeleton Substances from Incrusted Cell Walls by Means of Chlorine Dioxide According to the One-Stage Process. Erich Schmidt, Yuan Chi Tang and Wilhelm Jandebeur. Cellulosechemie 12, No. 7: 201-212 (July 5, 1931). The numerous relations of 3 $C_6H_{10}O_5$ of cellulose to 1 $C_5H_8O_4$ of s.l. xylan to 1 $CO.CH_2$ of acetyl in the skeleton substance of red beech (*Fagus silvatica*) are discussed in complete detail.—J. F. O.

Thermal Properties of Cellulose and Cellulose Derivatives. Erwin Heisenberg. Cellulosechemie 12, No. 6: 159-162 (June 7, 1931). By comparing the heat of combustion of cellulose with that of its derivatives, it is possible to calculate the heat of combination of these derivatives and to draw conclusions from this as to the energy content of the union between the cellulose and the other molecule. A description of the experimental part is given along with the results obtained.—J. F. O.

Concerning the Knowledge of the Lignins. II. Phenol Lignin and its Acetyl Derivative. E. Wedekind, O. Engel, K. Storch and L. Tauber. Cellulosechemie 12, No. 6:163-173 (June 7, 1931).—J. F. O.

An Investigation to Compare a Sound and a Frozen Piece of Wood to the Same Tree. Kirt Brass & Wilhelm Ehm. Cellulosechemie 12, No. 6: 173-178 (June 7, 1931). A series of chemical tests were made on the sound and the frozen pieces of wood, such as lignin content, raw cellulose, pentosans, etc. and the method for each test is given.—J. F. O.

Concerning the Fine Fiber Structure and Swelling of Cellulose. Kurt Hess and Leo A. Kim. Cellulosechemie 12, No. 4: 95-103 (April 5, 1931).—J. F. O.

Concerning Methyl Glycol Lignin. W. Fuchs and R. Daur. Cellulosechemie 12, No. 4: 103-110 (April 5, 1931).—J. F. O.

The Structure of Ramie Cellulose, as Derived from the Investigation with Röntgen Rays. O. L. Sponsler and W. H. Dore. Cellulosechemie 11, No. 9: 186-197 (Sept. 14, 1930).—J. F. O.

Contribution to the Knowledge of the Young Bark and of the Young Wood of Spruce, Pine and Red Beech. Carl G. Schwalbe and K. E. Neumann. Cellulosechemie 11, No. 6: 113-128 (June 1, 1930). The authors describe in part, the investigation of the young bark of spruce, pine and red beech; the investigation of the wood building sap of spruce, pine and red beech; discussing all methods of analysis and the various experiments conducted. The cambium cells between the bark and the wood have very soft cell walls during the spring, therefore it is very easy to tear the bark lose from the wood. In the fall and winter these cell walls are strongly incrusted, the union between the wood and bark is then very tough.—J. F. O.

Apparent Destruction of the Wood by the Larva of Annobium. Richard Falk. Cellulosechemie 11, No. 6: 128-129 (June 1, 1930).—J. F. O.

Concerning the Chemistry of the Pectins and Its Relation to the Formation of Incrustants of Cellulose. Felix Ehrlich. Cellulosechemie 11, No. 7:140-151 (July 6, 1930).—J. F. O.

The Problem of the Swelling of Cellulose and Its Derivatives. J. R. Katz. Cellulosechemie 11, No. 2: 17-30 (Feb. 9, 1930). A comprehensive review of the subject. Among the topics discussed in detail are, thermodynamics of swelling, the quantitative law for the swelling in water and its analogy with the laws for aqueous concentrated solutions, the quantitative law for the swelling in organic liquids and its analogy with the laws for aqueous

concentrated solutions, change in cohesion during selling. typical substances capable of swelling are all high molecular, the Rontgen spectrograph makes possible the differentiation in inter micellar and intra micellar swelling, and the influence of the ions in the swelling in concentrated aqueous solutions of ionized substances.—J. F. O.

New Degradation of Cellulose. Hans Pringsheim, Georg Otto and J. R. Katz. Cellulosechemie 11, No. 7: 137-39 (July 6, 1930).—Acetyl cellulose dissolved in chloroform is cooked in the presence of benzol sulphonic acid whereby acetyl groups are split off giving an unknown degradation product of cellulose. Complete description of the procedure.—J. F. O.

Concerning the Action of Aromatic Diazo Substances on Lignin and Cellulose. William Kuster and Richard Daur. Cellulosechemie 11, No. 1:4-6 (Jan. 12, 1930).—J. F. O.

Collective Review Over the Literature on the Chemistry of Cellulose and the Manufacture of Pulp and Paper Appearing in the German Trade Journals During the Period from January 1, 1929 to June 30, 1929. Walter Moosdorf. Tech. Chem. Papier Zellstoff Fabr. 27, No. 2/3: 37-43; No. 5: 71-76; No. 6: 88-95 (Mar. 29, May 31, July 12, 1930). The author divides the literature into the following groups, 1. general cellulose chemistry, 2. cellulose derivatives, 3. substances accompanying cellulose, 4. lignin, 5. sugar chemistry, 6. wood, 7. colloid chemistry, 8. analysis and mill control, 9. manufacture of paper, 10. sizing, beating, loading and dying, 11. sulphite pulp, 12. sulphite liquor and sulphite alcohol, 13. bleaching, 14. sulphate pulp. The principle articles are abstracted and important facts given. There being 217 references to the original source of the article.—J. F. O.

Collective Review Over the Literature on the Chemistry of Cellulose and the Manufacture of Pulp and Paper Appearing in the German Trade Journals During the Period from July 1, 1929 to December 31, 1929. Walter Moosdorf. Tech. Chem. Papier Zellstoff Fabr. 27. No. 11/12: 153-166 (Nov. 29, 1930). Continuation of the above abstracting under the same group headings for the second half of the year 1929.—J. F. O.

Concerning the By-Products in the Formation of Cellulose. Max Ludtke. Cellulosechemie, 12, No. 12: 307-310 (Dec. 6, 1931). Decomposition of the straw of green and ripe winter wheat with 0.2 per cent chlorine water and 1 to 2 per cent ammonia, fractionating the cellulose, etc. gave qualitative and quantitative differences between the young and full grown cell walls. The polymer carbohydrates in the final condition are presumably not a mixture but individuals. A valuable addition to the knowledge of cellulose.—J. F. O.

Hygroscopic Moisture of Cellulose. VIII. Sutezo Oguri. J. Boc Chem. Ind. (Japan) 35 (Supp. Binding); 279-282 (July, 1932).—Regenerated cellulose absorbs water vapor more easily than natural or mercerized cellulose. Regenerated cellulose of different origins but prepared by the same process absorb equal amounts of water vapor under the same conditions. There is no noticeable difference in the hygroscopic properties of regenerated celluloses prepared by different regenerating processes.—A.P.-C.

Chemical Investigations of Bamboo Cellulose. VIII. **Optical Properties of Bamboo Cellulose.** Sutezo Oguri. J. Soc. Chem. Ind. (Japan) 35 (Supp. Binding); 400-404 (Aug., 1932).—Bamboo cellulose has the same optical rotation as cotton cellulose in corresponding solution, indicating that bamboo cellulose and cotton cellulose are the same chemical compound.—A.P.-C.

The Silver Number of Cellulose. M. Bressard. Memorial Des Poudres 24:245-254 (1930-1931).—A study of the Götze method indicated that the cellulose is oxidized continuously by a solution of silver acetate, the reaction being hindered by the formation of free acetic acid. The action of the original reducing groups of the cellulose is reinforced by the formation of degradation products, and the results obtained depend on the time of heating and the pH of the solution.—A.P.-C.

Potential Reducing Numbers of Lignin and of Carbohydrates of Wood. Geo. J. Ritter, R. L. Mitchell and R. M. Seborg. Ind. Eng. Chem. 24:1285-1287 (Nov., 1932).—Hydrolyzed solutions of spruce and catalpa lignins have reducing numbers which are 29.5% and 38.6%, respectively, of that of glucose. The treatment employed for isolating the lignin and the cellulose has no effect on the potential reducing properties of the lignin and the carbohydrates.—A.P.-C.

Lignosulphonic Acid. R. Hedlund. Svensk Pappers-Tidn. 35, No. 18:612-614, 617 (eSpt. 30, 1932).—Hedlund shows that concentrated hydrochloric acid is not suitable for determining the lignin content in pulps, as the result is influenced by the extent to which the lignin becomes sulfonated in the sample.—C.J.W.

Concerning the Lignin of Spruce Wood. B. Rassow and H. Gabriel. Cellulosechemie 12, No. 8:227-235; No. 9/10:249-254; No. 11:290-295, and No. 12:318-320 (Aug. 2, Sept, 6, Nov. 1, Dec. 6, 1931).—A scholarly and comprehensive study of the lignin of spruce wood. Discusses the following: definition of lignin, color reactions of lignin, methods of isolation, the methoxyl content, elementary analysis of the lignins, molecular weight determination and many experiments are described in detail.—J.F.O.

Concerning Lignin, Coniferyl Alcohol and Saligenin. Karl Freudenberg, Ferinand Sohns, Walter Durr and Christian Niemann. Cellulosechemie 12, No. 9/10:263-276 (Sept. 6, 1931).—J.F.O.

The Carbonyl Group of Lignin and Lignin Sulphonic Acid, its Properties and Its Importance in sulphite Pulp Cooking. Erik Hagglund. Torsten Johnson and Lars Trygg. Cellulosechemie 11, No. 2: 30-38 (Feb. 9, 1930). The numerous experiments are described in detail. The question of whether there is an active carbonyl group in the lignin molecule is disputed. It was shown that the sulphonation of the lignin in the solid phase, in the wood as well as in lignin isolated with hydrochloric acid, takes place without large quantities of sulphite being loosely bound. A black cook is unavoidable if the lignin in the wood is not completely sulphonated and saturated before the buffer action of the cooking acid ceases, that is before the available sulphite disappears. The acidity of the cooking liquor remains constant as long as the buffer action of the sulphite holds out and no relief gasing taking place. —J. F. O.

Experiments With Lignin Sulphonic Acid Which Has Been Salted Out of Solution. W. Nippe and A. Ogait. Cellulosechemie 11, No. 2:38-41 (Feb. 9, 1930). Description of method of obtaining such and the experiments carried out with the lignin sulphonic acid.—J. F. O.

Process for the Production of Hydrocarbons, Carbonic Acids and other Products. A. R. Linblad. Swed. pat. 301 (Jan. 11, 1929). Lignin or substances containing lignin is decomposed by alkalies and treated with carbon dioxide at higher temperature and higher pressures without the use of a catalyser.—J. F. O.

Mechanical Processes

Control in the Groundwood Mill. Ray J. Schadt. Pacific Pulp Paper Ind. 6, No. 9:11-12 (Aug. 1932).—*See* Technical Section 95:174.

Better Groundwood. C. O. Bachman. Paper Mill 55, No. 21:12, 14 (May 21, 1932).—A brief discussion of the principal factors entering into the production of high grade groundwood, bringing out more particularly the merits of the Bachman diagonal grinding process in which the wood is placed diagonally relatively to the axis of the stone.—A. P.-C.

Temperature Control on Pulp Grinders. Malcom B. Hall. Paper Industry 14, 537, 539 (Oct. 1932).—A brief discussion of the advantages of automatic over hand control of grinder temperature.—A. P.-C.

Special Application for Motor Driven Grinders at Manistique Mill. Edward Sheahan. Paper Trade J. 95, No. 17:21-22 (Oct. 27, 1932).—A description of the exceptional conditions prevailing at the Manistique mill and of the installation made to meet them.—A. P.-C.

A New Sharpener for Pulp Stones. Papier-Fabr. 30, No. 26:355 (June 26, 1932). The author describes the disadvantages of the present stone sharpeners, and comparing it with the new patented stone shapener by Arnold. This consists of a sharpening roll attached to a lever arm which delivers hammer like blows on the stone, the distance of the throw and the pressure are regulated. By using this sharpener it is claimed that better stock is possible.—J. F. O.

The Relation of the Forces in the Wood Magazine of a Continuous Pulp Grinder. N. Wunderlich. Papier-Fabr. 30, No. 27:433-34 (July 3, 1932). The author discusses the forces acting upon the pulp stone, and is not in full agreement with the previous results of L. Prandtl. The chief reason for the difference in speed between the feeding mechanism and the wood in the magazine is due to the way the wood is piled in the magazine. To prove this point the author mentions the fact that the difference in speed does not occur when a spindle is used for the feeding mechanism.—J. F. O.

The Force Exerted by the Wood in the Magazine of a Continuous Grinder. L. Prandtl. Papier-Fabr. 30, No. 20:313-318 (May 15, 1932). The author, by means of higher mathematics and diagrams, shows the various forces acting upon the stone in a pulp grinder. The much used "bridge theory" is shown to be inadequate and leads to erroneous results, because the wood in the magazine with sufficiently high pressure on all sides approaches the properties of a solid, elastic body. In the higher magazines, the wood is supported by the feed mechanism and only at the lower portion is the pressure on the stone increased. There is a change of pressure taking place in the magazine due and if the speed of the feed mechanism is different from that of the wood. A very valuable contribution to the knowledge of wood grinding.—J. F. O.

Influence of the Finely Ground Portion of Ground Wood Upon the Strength. Von Possanner and Nils Windju. Papier-Fabr. 30, No. 23:375-80 (June 5, 1932). Report from the Technical Institute for Paper of the Trade University at Kothen. The influence of varying amounts of fine material, (wood meal) and of coarse material on the strength and other properties of the paper is shown on two different kinds of ground wood. It was found that in amounts of over fifty per cent, the fine material determines the strength and limits the tear. The ground wood was separated into wood meal and fiber by means of the apparatus of Hurum & Klem. A description of this apparatus and the different tests carried out are given.—J. F. O.

Concrete Pulp-Grinding Stone. Fritz Rühlemann. U. S. pat. 1,880,492 (Oct. 4, 1932).—Pulp grinding stones of concrete can be safely made and used if care is taken that, at the setting and hardening of the concrete, the temperature of the surroundings of the stone is almost equal to the temperature occurring in the interior of the stone. For this purpose cavities are provided in the stone, in which thermocouples are inserted serving for the observation of the temperature at various points in the body of the stone.—A. P.-C.

Wood Grinder Regulating Device. Viktor Rusterholz assignor to Aktiengesellschaft Brown Boveri & Cie. U. S. pat. 1,873,982 (Aug. 30, 1932).—The load-maintaining, regulating device of a wood grinder is operated in electrical dependence off both the speed of the prime mover and of a generator connected therewith. The load of a mechanically operated grinder is regulated entirely by electrical means dependent on the operation of the grinder-driving device.—A. P.-C.

Drive Mechanism for the Feeding Device for Magazine Grinders and Similar Apparatus. L. Aksnes. Nor. pat. 49,942 (Feb. 23, 1926).—J. F. O.

Broad Press Wood Grinder. Firma J. M. Voith, Heidenheim. Swed. pat. 73,492 (March 31, 1928). Several pressure pistons are arranged in each chamber without an intervening wall so that the wood is pressed by all the pistons or individually.—J. F. O.

Regulating Device for Turbines for Pulp Grinders. Julius Haug and P. G. Heyerdahl. Nor. pat. 50,045 (May 1, 1929).—J. F. O.

Arrangement for Sharpening of Pulp Stones. Elling Stroemmen. Nor. pat. 50,050 (June 11, 1930).—J. F. O.

Pulp Wood Grinder. Andreas Biffar. Ger. pat. 553,-132 (Feb. 17, 1931). The logs are pressed against the inner side of a pulp stone which is partly bored out, the pressure of the wood is received from an eccentric cylinder within the pulp stone.—J. F. O.

Regulating Device for the Drive for Wood Grinders. Aktiengesellschaft Brown, Boveri & Cie, Baden. Ger. pat. 552,558 (June 6, 1931).—J. F. O.

Wood Pulp Grinder With an Arrangement for Pressing the Wood in Wide Pressure Chambers. J. M. Voith. Ger. pat. 548,899 (April 1, 1928). The arrangement consists of several pressure foots which are not separated by any wall and are capable of acting separately.—J. F. O.

Alkaline Processes

Manufacture of Pulp According to the Chlorine Gas Process. Umberto Pomilio. Papier-Fabr. 30, No. 38; 565-569 (Sept. 18, 1932). A complete description of the manufacture of pulp from plant materials by means of chlorine gas as carried out at the mill of the "Celulosa Argentina" in Roario de Sante Fé. The process is, as follows; the plant materials are heated without pressure to 80 to 90°C. with a weak alkaline solution, approximately 1 per cent NaOH. The material then goes to a tower where the excess liquor is removed, this step being a continuous process. Then to the chlorination tower where it is subjected to a counter current stream of chlorine gas. The material is then washed with water and then with weak alkalies. Much operating data is given as well as a plant lay-out and line diagram of the process.—J. F. O.

Chlorination of Pulp. George H. Tomlinson. Can. pat. 324,708 (Aug. 2, 1932).—A freely flowing stream of pulp is continuously fed to a zone of violent agitation and a regulated quantity of chlorine gas added to the pulp as it enters the zone. The resulting hypochlorous acid combines with the lignin of the pulp as rapidly as it is formed. The pulp is continuously withdrawn from the zone.—A. P.-C.

The Swedish Pulp Company's New Sulphate Pulp Mill at Ostrand. Gosta A. Hall. Paper Maker & Brit. Paper Trade J. 83: 314-330 (April 1, 1932).—An illustrated description of the mill.—A. P.-C.

Section of the

COST DEPARTMENT

of the

American Paper and Pulp Association

Edited by Thomas J. Burke C. A. Director Cost Dept.

Problems Confronting Domestic Business*

It is quite generally agreed that among the most important problems before American business today are those concerned with marketing and distribution. For the time being, productive capacity and productive efficiency are sufficient to meet our needs. But it not infrequently happens that savings which have been effected in production are more than offset by increased costs of getting the goods into the hands of the consumer.

This is not the place to attempt an exhaustive treatment of this subject, but the following points cover some of the more important phases of this problem, and indicate some of the remedies which can be applied.

The Fallacy of Volume

Perhaps no one thing is causing more grief in business than the effort made by many firms to obtain volume of sales with little or no regard to cost. Volume of sales is not necessarily a criterion of a successful business. Volume at a profit but only at a profit is the goal which should be aimed for.

The principle of selective selling with regard to territories and customers is one which many firms have adopted with great benefit to their profit and loss sheet. Profitless customers and profitless orders may increase volume but the losses incurred must be paid for out of money made on other parts of the business. For example, we have the record of one large wholesale establishment which dropped two-thirds of the customers they had been serving and, as a result, greatly increased their dollar profits.

It can be confidently stated that for almost any firm approximately 80 per cent of its business comes from 20 per cent of its customers. Most of the other 80 per cent of the customers are usually unprofitable. To a large extent this comes about because the average manufacturer or wholesale organization is set up to serve a given type of customer, usually one with a fair volume of business. Instead of being content to serve this type of customer alone, the average firm extends the same service to other types, particularly small firms, without any additional charge. In so doing they suffer a loss. The loss either must come out of the firm's own profit or must be offset by a higher margin on their whole business than would otherwise be necessary.

The Census of Distribution shows that approximately 40 per cent of all the retail stores in the country do less than $10,000 worth of business per year. These small retailers, for the most part perform a necessary and useful function in the marketing of commodities. But the average distributor whose organization is set up to serve retailers doing $30,000 or $50,000 in annual sales can not ordinarily serve these small retailers except at a loss. If our present distributors would recognize this fact, we should soon have established wholesale organizations set up especially to serve these small retailers, and which could do so at a profit. Such organizations would not be able to furnish the service required by larger retailers.

In the study of Hardware Distribution in the Gulf Southwest it was found that in one agricultural county of Texas with a total population of 6,800 there were 22 wholesale hardware firms sending salesmen to the 5 retail stores in the county. The wastefulness of such methods is self evident.

The new Census of Distribution is placing facts in the hands of business which it has never had before. There is the possibility that its findings may revolutionize marketing practices. No business can afford to neglect these new developments.

When it is realized that 13 cities in the United States account for one-third of all the retail sales, that New York State alone does one fourth of the total retail business of the country (more than in the whole territory represented by 9 Southeastern States), that 75 per cent of the total market for industrial goods is to be found in only 150 counties and that to get the other 25 per cent you have to cover more than 2,900 counties, we then get some idea of the concentration in market potentials and the necessity for planning in sales management if enormous wastes are to be avoided.

Similar concentrations of good and poor sales territories occur within States and even within cities.

The key to the solution of many of these problems for individual firms lies in a better knowledge of distribution costs. Detailed costs of production are now regarded as essential by any up-to-date manufacturer. The time is not far distant when similar facts with regard to the cost of handling individual commodities and serving individual customers will be equally essential to the successful distributor.

This bureau has pioneered in the development of practical methods for the determination of such distribution costs. This information, from both our own and other studies, is available to individuals and particularly to trade organizations, which may care to undertake work along these lines with their members.

Price Cutting

One of the difficult problems of recent years has been the wave of uneconomic price cutting which has swept over nearly all businesses and has frequently removed the possibility for any establishment to make a profit.

* Extract from annual report of F. M. Feiker, Director of Bureau of Foreign and Domestic Commerce, for fiscal year ended June 30, 1932.

Profits are the mainspring of business. The entire competitive system is predicated upon the ability of individuals and individual establishments to make a reasonable profit on their operations. There will always be marginal producers and marginal distributors, but conditions which make it impossible for the great bulk of efficient establishments in any business to make a profit are not in the public interest.

Price cutting is often undertaken without a clear recognition of its effects upon profits. It is frequently assumed that the increased volume hoped for by lower prices will lessen costs and maintain dollar gross margin.

A little computation shows that to offset the loss of gross margin from a 30 per cent price cut often requires an increase of as much as 300 per cent volume of sales if the cost of merchandise remains the same. Such an increase in volume might lower manufacturing costs but would almost certainly be accompanied by a marked increase in marketing costs.

Under competitive conditions uneconomic price cuts are frequently forced upon a trade by a few firms who willfully undertake such practices. Business executives might well consider what steps should be undertaken to prevent such uneconomic action but still preserve the public interest against undue price increases.

Increasing Importance of Small Industries

Among the developments of the depression has been the increase in the importance of small industries. With the smaller overhead expense and with management much closer to the job, these smaller concerns have frequently been able to make adjustments to changed conditions more quickly and more advantageously than have the larger companies and corporations. With the return of better conditions, these small concerns are going to need assistance, particularly with their marketing problems. Working through their trade organizations, this bureau is able to render greatly needed help to those smaller manufacturers and distributors which can not themselves have the benefit of their own research organizations. After all, these smaller concerns have always formed the backbone of our industrial and commercial organization.

Reducing Merchandising Wastes

The events of the past two difficult years have served to emphasize the urgent necessity for more adequate and efficient methods of distributing and marketing commodities. Production has been greatly retarded by the lack of a distribution system capable of mobilizing sufficient consumer buying power. Business as a whole is keenly conscious of this situation.

Cooperation With Business in Research

Studies on business failure have shown alarming conditions. 35 per cent of those who operate retail grocery stores fail to complete the first year. Statistics show that there is only 1 chance in 20 for a grocery store starting today to remain in business 10 years. Our studies in Boston show that over 51 per cent of the bankrupt businesses in 1930 had no accounting records and a further 28 per cent had totally inadequate records.

Such conditions causing large unnecessary drains upon business, are the proper concern of the Federal Government in promoting the public welfare. Most of the great economic groups are represented either by major departments or special bureaus in the National government. This is true of agriculture, labor, mines, forestry, fisheries, etc. Outside of the Bureau of Foreign and Domestic Commerce there is no place in the Federal Government where the great body of more than 2,000,000 merchants can look for assistance. The expenditures by this bureau on assistance to domestic commerce during the past year were less than $400,000 or considerably less than one, one-hundredth of 1 per cent of the National Budget.

All of the work which the bureau undertakes in this field is at the request and with the cooperation of representative national trade organizations, and only such work is undertaken as cannot satisfactorily be done by these organizations alone.

Most of the work undertaken by the bureau is of a pioneering nature, attempting to develop cooperation with new business methods and new facts designed to be of practical assistance to manufacturers and merchants in the improvement of their distribution and marketing.

One of the outstanding pieces of work in the domestic commerce field during the past year was the National Retail Drug Store Survey carried out in St. Louis. This was undertaken in cooperation with a special committee composed of representatives of 33 national trade associations, taking into account all phases of the drug store business. This committee defrayed all expenses connected with the collecting of the data except that of the directing heads of the survey.

On April 26 and 27th, 1932, this committee held a conference in St. Louis to consider the preliminary results of this survey. More than 800 persons from all phases of the drug store trade attended this 2 day session. A resolution adopted unanimously at the end of this meeting stated among other things: "it is the belief of the more than 700 delegates to the National Drug Store Survey Conference that both the information proceeding from this survey and the principle that it demonstrates of the effectiveness of fact finding through an important agency, such as the Department of Commerce, are notable contributions to the business stability of the entire Nation."

This survey is only one of a series of studies in which the bureau has taken the leadership in studying cost of distribution, methods of marketing, providing aids for better definition of market, showing the need for selective selling and for scientific pricing, providing better information for the guidance of retail and mercantile credit, and indicating ways in which the enormous toll from business failures can be diminished.

Among the specific pieces of work completed during the year may be mentioned the Commercial Survey of the Pacific Northwest, giving specific information of use to the distributor of commodities in that region; a study of Hardware Distribution in the Gulf Southwest; the publication of a bulletin on General Consumer Market Statistics, giving for each county in the United States a series of market indicators making possible the better delineation of sales territories and the evaluation of market possibilities.

Under the title of "Aids in Analyzing Markets" studies have been made for individual states which attempt to correlate data from the Census of distribution with figures available from other sources for a more effective determination of market possibilities.

For those engaged in selling to industries two publications were issued which have met with wide acceptance. These are: A basis for Establishing Industrial Sales Territories and A Basis for Establishing Supervision of Industrial Sales Personnel.

Work was also completed on a study of Manufacturing Market Statistics, which brings together a large amount of new material to assist those who are selling raw materials or manufactured products to other manufacturers. Most of this work has been carried on with the assistance and guidance of an advisory committee, the membership of which was appointed by trade associations especially interested in this field.

CONSTRUCTION NEWS

A Summary of Vital Facts Regarding Construction, Finances and Operation of Paper Mills

Construction News

West New York, N. J.—The Shellmar Products Company, 3501 West 48th place, Chicago, Ill., manufacturer of glassine paper specialties, printed paper goods, etc., has concluded arrangements for purchase of former factory of the Brinkerhoff Electric Company at 600 Eleventh street, near Jefferson street, extending through to Schley place, West New York. Building is three-story, on site 104 x 176 feet, and will be occupied by new owner for Eastern plant unit. Structure will be remodeled and improved, and equipment installed at early date. Eastern headquarters of purchasing company are at 220 Fifth avenue, New York.

Providence, R. I.—The Jackson Paper Box Company, recently organized with capital of 100 shares of stock, no par value, by Salvatore C. Celardi, 115 Dexter street, Providence, and associates, plan operation of local plant for manufacture of paper boxes and containers. Peter F. Feeley, Jr., Providence, is interested in new company.

Los Angeles, Cal.—The Western Waxed Paper Company, 910 East 61st street, has awarded general contract to M. L. Marvin, 5957 South St. Andrews place, for alterations and improvements in its plant. Estimated cost not announced.

Long Island City, N. Y.—The International Mailing Tube & Wrapper Company, 40 Flatbush avenue extension, Brooklyn, N. Y., manufacturer of cardboard mailing tubes and other paper goods, has arranged for the purchase of one-story building on Review avenue, near Twenty-ninth street, Long Island City. It is on a site 125 x 230 feet, and totals approximately 28,000 square feet of floor space. Purchasing company will take immediate possession and will occupy for new plant, increasing present capacity. It is understood that present factory will be removed to the new location.

Brooklyn, N. Y.—The Kleeman Box Corporation, care of Louis D. Cohen, 1705 Pitkin avenue, representative, recently organized with capital of $10,000, is said to be planning early operation of local plant for the manufacture of paper boxes and containers.

Rochester, N. Y.—The Stecher-Traung Lithograph Corporation has been organized to take over and consolidate the Stecher Lithographic Company, 274 North Goodman street, Rochester, and the Traung Label and Lithographic Company, 640 Battery street, San Francisco, Cal., both manufacturers of paper goods and lithograph paper specialties of various kinds, labels, etc. The new organization will have a capital of $1,700,000 preferred stock, and $2,300,000, common stock, and plans a general expansion program. It is proposed to continue operation of present plants at Rochester and San Francisco, and in near future company will arrange for a plant in the Middle West, either by purchase of existing plant or establishment of new one. Otto R. Rohr, head of the first noted company at Rochester, will be president of consolidated organization, and Charles F. Traung, San Francisco, executive vice-president.

Brooklyn, N. Y.—The Gurney Security Paper Co., 1723 Eighth avenue, Brooklyn, manufacturer of paper specialties, has leased a floor in the industrial building at 66 Front street, Brooklyn, and will occupy for local plant at early date. It is understood that present works will be removed to new location.

Ashland, Wis.—The Marathon Paper Mills Company, Ashland, is said to be arranging for early award on general contract for proposed new addition to local mill, for which bids were recently closed. New structure will be one-story and basement. Estimated cost has not been announced.

Fredericksburg, Va.—The Sylvania Industrial Corporation is beginning work on expansion program at local transparent cellulose wrapping material plant, recently referred to in these columns, and will soon have superstructure under way for two new one-story structures, reported to cost over $100,000, with equipment. A list of machinery to be installed has been arranged. It is proposed to provide for large increase in present output. Company mill is now running on close to normal basis, with large working force. General contract for new buildings has been awarded to the Hughes-Foulkrod Company, Schaff Building, Philadelphia, Pa.; the Ballinger Company, 105 South Twelfth street, Philadelphia, is architect and engineer.

New York, N. Y.—The Haller-Munro Lithographing Company, Inc., has concluded arrangements for lease of floor in the building at 200 Varick street, totaling 15,000 square feet of floor space, for a period of ten years, and will occupy for local paper goods plant.

Drummondsville, Que.—Canadian Celanese, Ltd., manufacturer of cellulose rayon products, is carrying out an expansion and betterment program at its local mill, with installation of additional equipment. The extensions will provide for considerable increase in former output. The mill is running on a full production schedule, with regular working quotas in different departments.

New Companies

New York, N. Y.—Snyder-Gross, Inc., has been organized with capital of 100 shares of stock, no par value, to deal in carbon papers, carbon paper containers, and kindred paper goods. The company is represented by Samuel Goldman, 261 Broadway, New York, attorney.

Chicago, Ill.—The Fullerton Label Company, 1046 Fullerton avenue, has been incorporated with a capital of $20,000, to manufacture paper labels and other paper goods. The incorporators are Charles Wruck, L. P. Names and George B. Pennington.

Tentative Program for Paper Week, Feb. 13–16

As previously announced, the annual meeting of the American Paper and Pulp Association and affiliated organization, will be held at the Hotel Pennsylvania, New York City, February 13 to 16, 1933.

The annual business meeting of the American Paper and Pulp Association will take place on Thursday, February 16, 1933, beginning at 10:30 a.m. At this meeting some of the most important problems before the industry will be discussed. The annual business meeting will be followed by a luncheon which this year will take the place of the Thursday night banquet. An outstanding business man will make the principal address at the luncheon.

Arrangements have been made with the railroads for special rates to and from New York City for convention week. The certificate plan is being used this year as during the past two years.

The annual meeting of the National Paper Trade Association will be held the same week, beginning on February 13, 1933.

The tentative schedule of meetings follows:

Tentative Program, Paper Week Feb. 13-16

HOTEL PENNSYLVANIA, NEW YORK CITY

American Paper and Pulp Association	—Annual Meeting	10:30 Thurs.,	Feb. 16
	—Luncheon	1:00 Thurs.,	Feb. 16
Central Research Committee	Dinner	6:30 Mon.,	Feb. 13
Cost Committee	Meeting	10:00 Wed.,	Feb. 15
Engineering Committee, Luncheon		1:00 Tues.,	Feb. 14
Executive Committee and National Paper Council	Dinner	6:30 Wed.,	Feb. 15
Glassine Division	Meeting	2:00 Wed.,	Feb. 15
Pulpwood Committee (Joint Meeting with TAPPI Operating and Raw Materials Division)		10:00 Mon.,	Feb. 13
	and	2:00 Mon.,	Feb. 13
Pulp Contract Revision Committee	—Meeting	10:30 Tues.,	Feb. 14
Simplification and Standardization of Printing Papers, Committee	—Luncheon	12:30 Mon.,	Feb. 13
American Waxed Paper Association	—Meeting	10:00 Tues.,	Feb. 14
	—Meeting	10:00 Wed.,	Feb. 15
Binders Board Manufacturers Association	—Luncheon	1:00 Wed.,	Feb. 15
Bristol Board Manufacturers	—Meeting	10:00 Tues.,	Feb. 14
Cardboard Manufacturers Association	Meeting	9:30 Wed.,	Feb. 15
Cover Paper Manufacturers Association	Meeting	10:00 Tues.,	Feb. 14
Empire State Forest Products Association	Luncheon	1:00 Tues.,	Feb. 14
Glazed and Fancy Paper Association	Meeting		
	Commodore Hotel	Fri.,	Feb. 17
Gummed Industries Association	Meeting	10:00 Thurs.,	Feb. 16
The Kraft Institute, Kraft Paper Manufacturers	Dinner	7:00 Mon.,	Feb. 13
	Meeting (all day)	10:00 Tues.,	Feb. 14
	Luncheon	1:00 Tues.,	Feb. 14
Bag Manufacturers Meeting	(all day)	10:00 Wed.,	Feb. 15
	Luncheon	1:00 Wed.,	Feb. 15
M. G. Manufacturers Meeting	(all day)	10:00 Thurs.,	Feb. 16
Paper Makers Advertising Club	Luncheon	12:30 Tues.,	Feb. 14
Salesmen's Association	Meeting	11:00 Tues.,	Feb. 14
	Luncheon	12:30 Tues.,	Feb. 14
The Sulphite Institute	Meeting	10:00 Tues.,	Feb. 14
Bleached Group	Meeting	2:30 Tues.,	Feb. 14
Unbleached Group	Meeting	2:30 Tues.,	Feb. 14
Supply and Equipment Section, Inc., Board of Directors		2:30 Tues.,	Feb. 14
Technical Association of the Pulp and Paper Industry:			
General Session		9:30 Mon.,	Feb. 13
General Session		9:30 Tues.,	Feb. 14
Annual Luncheon		1:00 Thurs.,	Feb. 16
Council—Dinner		7:00 Tues.,	Feb. 14
Divisional Meetings		4:30 Mon.,	Feb. 13
Converting and Consuming Division		10:00 Mon.,	Feb. 13
	and	2:00 Mon.,	Feb. 13
	and	9:30 Thurs.,	Feb. 16
Engineering Division		10:00 Mon.,	Feb. 13
	and	2:00 Tues.,	Feb. 14
	and	9:30 Wed.,	Feb. 15
Management Division		2:00 Mon.,	Feb. 13
	and	2:00 Wed.,	Feb. 15
Operating Division		9:30 Wed.,	Feb. 15
	and	2:00 Wed.,	Feb. 15
Operating and Engineering Divisions		9:30 Thurs.,	Feb. 16
Operating and Raw Materials Divisions (Joint Meeting with APPA Pulpwood Committee)		10:00 Mon.,	Feb. 13
	and	2:00 Mon.,	Feb. 13
Operating, Raw Materials and Testing Divisions		2:00 Tues.,	Feb. 14
Raw Materials and Testing Divisions		9:30 Wed.,	Feb. 15
	and	2:00 Wed.,	Feb. 15
Research and Development Division		2:00 Tues.,	Feb. 14
	and	9:30 Thurs.,	Feb. 16
Writing Paper Manufacturers Association		10:00 Wed.,	Feb. 15
Sulphite Bond Division		2:30 Tues.,	Feb. 14
Rag Content Division		2:30 Wed.,	Feb. 15
Executive Committee Breakfast		9:00 Wed.,	Feb. 15

Rubber Cement as Adhesive for Paper

Rubber cement is sometimes used in public libraries to fasten papers containing valuable records in scrap books or other protective holders. It appears to be a very convenient and generally suitable adhesive for this purpose, but a question was raised by a librarian as to the possibility of its having a deteriorative effect on paper, and the Bureau of Standards was asked for its opinion. Examination of the type of cement in question disclosed no ingredients considered harmful to paper, but tests were made by coating sheets of paper with the cement, subjecting them to accelerated aging by heating in air, and then testing the papers for loss of strength. Since the strength of the papers was practically unaffected, it was concluded that the cement would have little deteriorative effect.

IMPORTS OF PAPER AND PAPER STOCK

NEW YORK, BOSTON, PHILADELPHIA AND OTHER PORTS

NEW YORK IMPORTS

WEEK ENDING DECEMBER 24, 1932

CIGARETTE PAPER

Standard Products Corp., Champlain, Havre, 152 cs.; Max Speigel & Sons, Pr. Adams, Genoa, 34 bls.

WALL PAPER

F. J. Emmerich, Amer. Trader, London, 6 bls.; F. J. Emmerich, Laconia, Liverpool, 1 ble.

PAPER HANGINGS

W. H. S. Lloyd & Co., Amer. Trader, London, 4 bls.

NEWS PRINT

——, Scanyork, Wiborg, 371 rolls; Jay Madden Corp., Dresden, Bremen, 280 rolls; Perkins Goodwin & Co., Dresden, Bremen, 105 rolls; Perkins Goodwin & Co., Manhattan, Hamburg, 63 rolls; ——, Manhattan, Hamburg, 196 rolls; Brooklyn Times, Lagaholm, Gothenburg, 142 rolls.

PRINTING PAPER

Vernon Bros. Co., Caledonia, Glasgow, 67 cs.; E. Dietzgen & Co., Statendam, Rotterdam, 21 cs.

WRAPPING PAPER

Gevaert Co. of America, Black Hawk, Antwerp, 7 cs.; Van Oppen & Co., Pr. Adams ,Genoa, 15 cs; E. Dietzgen & Co., Statendam, Rotterdam, 5 cs.

PACKING PAPER

C. Steiner, Statendam, Rotterdam, 70 cs.; American Bluefreisveem, Inc., Statendam, Rotterdam, 10 cs.

DRAWING PAPER

H. Reeve Angel & Co., Inc., Amer. Trader, London, 14 cs.

FILTER PAPER

H. Reeve Angel & Co., Inc., Amer. Trader, London, 3 cs.

BRISTOL BOARDS

Devoe & Reynolds Co., Amer. Trader, London, 1 cs.

SURFACE COATED PAPER

Gevaert Co. of America, Black Hawk, Antwerp, 37 cs.

BASIC PAPER

C. Bruening Co., Statendam, Rotterdam, 151 rolls.

COLORED PAPER

D. C. Andrews & Co., Europa, Bremen, 1 cs.

TISSUE PAPER

F. C. Strype, Laconia, Liverpool, 4 cs.

DECALCOMANIA PAPER

Sellers Transportation Co., Europa, Bremen, 12 cs.; L. A. Consmiller, Europa, Bremen, 14 cs.

WRITING PAPER

A. S. Allen, American Trader, London, 1 cs.

STENCIL PAPER

Massce & Co. Inc., Amer. Trader, London, 1 cs.; D. C. Andrews & Co., Amer. Trader, London, 1 cs.

CARD BOARDS

Coty Processing Co., Champlain, Havre, 8 cs.

MISCELLANEOUS PAPER

A. M. Capens Sons Inc., Black Hawk, Antwerp, 19 bls.; Keller Dorian Paper Co., Champlain, Havre, 5 cs.; C. Schleicher & Schull Co., Manhattan, Hamburg, 6 cs., 5 casks.

RAGS, BAGGINGS, ETC.

E. J. Keller Co. Inc., Black Hawk, ——, 45 bls. bagging; Banco Coml Italiane Trust Co., Dresden, Bremen, 9 bls. rags; ——, Manhattan, Hamburg, 39 bls. rags; ——, Ingria, Barcelona, 57 bls. rags.

CHINA CLAY

——, Laconia, Liverpool, 536 bags, 30 tons.

OLD ROPE

National City Bank, New York City, Bristol, 118 coils; Banco Coml Italiane Trust Co., Habana, Coruna, 26 coils; Banco Coml Italiane Trust Co., Dresden, Bremen, 52 coils; E. J. Keller Co. Inc., Amer. Trader, London, 100 coils; —, Caledonia, Glasgow, 88 bls.; National City Bank, Caledonia, Glasgow, 59 bls.; —, Manhattan, Hamburg, 26 bls.

WOOD PULP

Perkins Goodwin & Co., Scanyork, Gdynia, 150 bls. wood pulp, 31 tons; E. J. Keller Co. Inc., Scanyork, ——, 336 bls. wood pulp, 50 tons; Castle & Overton, Inc., Scanyork, Wiborg, 2128 bls. woodpulp, 398 tons; Bulkley Dunton & Co., Kersten Miles, ——, 2900 bls. wood pulp, 583 tons; ——, Kersten Miles, Hernosand, 2064 bls. sulphite, 344 tons; Johaneson Wales & Sparre, Inc., Kersten Miles, Sundsvall, 500 bls. chemical, 101 tons; 2770 bls. sulphite, 509 tons; ——, Kersten Miles, Sundsvall, 500 bls. chemical, 101 tons; Mead Sales Co. Inc., Kersten Miles, Sundsvall, 250 bls. sulphite, 50 tons; ——, Korsholm, Wiborg, 1074 bls., sulphite; ——, Korsholm, Kirkkoniemi, 130 bls. sulphite;——, Korsholm, Wiborg, 243 bls. sulphate; Lagerloef Trading Co., Korsholm, Kotka, 203 bls. sulphate; 170 bls. sulphite; Lagerloef Trading Co., Korsholm, Rauma, 612 bls. sulphite; Stora Kopparberg Corp., Lagaholm, Skutskar, 1625 bls. wood pulp; Lagerloef Trading Co., Lagaholm, Wasa, 508 bls. mechanical pulp; 700 bls. sulphite; Pagel Horton & Co., Inc., Lagaholm, Gefle, 4125 bls. sulphite; Bulkley Dunton & Co., Lagaholm, ——, 750 bls. sulphite; J. Manheimer, Statendam, Rotterdam, 100 bls. wood pulp; ——, Manhattan, Hamburg, 296 bls. wood pulp, 46 tons.

ALBANY IMPORTS

WEEK ENDING DECEMBER 24, 1932

Halifax Power & Pulp Co., Winroth Sheet Harbor, 9824 bls. mechanical pulp; 1583 bls. pulp screenings.

BOSTON IMPORTS

WEEK ENDING DECEMBER 24, 1932

——, Korsholm, Wiborg, 1872 bls. sulphite; Castel & Overton, Inc., Korsholm, Wiborg, 3519 bls. wood pulp; Irving Trust Co., Korsholm, Wiborg, 1705 bls. sulphate; Stone & Downer, Korsholm, Kotka, 95 rolls news print; Lagerloef Trading Co., Korsholm, Kotka, 2050 bls. sulphate; Parsons & Whittemore, Inc., Quaker City, ——, 392 bls. sulphite; Parsons & Whittemore, Inc., Tysla, ——, 300 bls. sulphite; Gottesman & Co. Inc., Murjek, Sweden, 1000 bls. wood pulp.

PORTLAND IMPORTS

WEEK ENDING DECEMBER 24, 1932

Irving Trust Co., Korsholm, Wiborg, 1520 bls. sulphate; ——, Korsholm, Kirkkoniemi, 2220 bls. sulphite; Lagerloef Trading Co., Lagaholm, Kotka, 1201 bls. sulphate; 552 bls. sulphite; Atterbury Bros. Inc., Korsholm, Kotka, 1560 bls. sulphate; Lagerloef Trading Co., Korsholm, Rauma, 260 bls. sulphite; 1778 bls. mechanical; Gottesman & Co. Inc., Argosy, Sweden, 14,600 bls. wood pulp; Gottesman & Co., Inc., Murjek, Sweden, 2825 bls. wood pulp.

PHILADELPHIA IMPORTS

WEEK ENDING DECEMBER 24, 1932

Miami Valley Importing Co., Scanyork, Gdynia, 3547 bls. wood pulp, 549 tons; Perkins Goodwin & Co., Scanyork, Gdynia, 150 bls. wood pulp, 31 tons; Johaneson Wales & Sparre, Inc., Scanyork, Gdynia, 334 bls. wood pulp, 50 tons; Pagel Horton & Co. Inc., Scanyork, Domsjo, 1800 bls. sulphite, 300 tons; J. W. Hampton Jr. & Co., Scanyork, Wiborg, 61 rolls news print; Lagerloef Trading Co., Scanyork, Wiborg, 5280 bls. sulphite, 993 tons; Castle & Overton, Inc., Scanyork, Wiborg, 1312 bls. wood pulp, 257 tons; Garrick M. Spencer, Kersten Miles, Munksund, 3000 bls. sulphate, 500 tons; Parsons & Whittemore, Inc., Kersten Miles, Hernosand, 900 bls. mechanical, 150 tons; ——, Kersten Miles, Hernosand, 1500 bls. sulphate, 250 tons; Johaneson Wales & Sparre, Inc., Kersten Miles, Sundsvall, 3500 bls. sulphite, 609 tons ——, Korsholm, Wiborg, 2794 bls. sulphite; Lagerloef Trading Co., Korsholm, Rauma, 1300 bls. sulphite; Stora Kopparberg Corp., Lagaholm, Skutskar, 2000 bls. wood pulp; Lagerloef Trading Co., Lagaholm, Wasa, 254 bls. mechanical; Gottesman & Co. Inc., Lagaholm, Gothenburg, 320 bls. wood pulp; Scott Paper Industries, Inc., Lagaholm, Gothenburg, 76 rolls news print; Chase National Bank, Ingria, Barcelona, 143 bls. rags; Parsons & Whittemore, Inc., Tysla, ——, 300 bls. sulphite.

WILMINGTON IMPORTS

WEEK ENDING DECEMBER 24, 1932

Castle & Overton, Inc., Scanyork, Wiborg, 3869 bls. wood pulp, 573 tons.

BALTIMORE IMPORTS

WEEK ENDING DECEMBER 24, 1932

Bulkley Dunton & Co., Kersten Miles, ——, 6000 bls. wood pulp, 1218 tons; J. Andersen & Co., Kersten Miles, Soderham. 2000 bls. sulphate, 406 tons; ——, Kersten Miles, Hernosand, 600 bls. sulphate, 100 tons; Parsons & Whittemore, Inc., Kersten Miles, Sundsvall, 150 bls. mechanical, 25 tons; Johaneson Wales & Sparre, Inc., Kersten Miles, Sundsvall, 2450 bls. sulphite, 521 tons; 625 bls. chemical, 127 tons; Philadelphia Natl Bank, Ingria, Barcelona, 207 bls. rags; Parsons & Whittemore, Inc., Blankaholm, ——, 408 bls. sulphite; Parsons & Whittemore, Inc., Tysla, ——, 3000 bls. sulphite; Gottesman & Co. Inc., Blankaholm, Sweden, 5770 bls. wood pulp.

NEWPORT NEWS IMPORTS

WEEK ENDING DECEMBER 24, 1932

Bulkley Dunton & Co., Kersten Miles, —— 6750 bls. wood pulp, 1350 tons; ——, Kersten Miles, Hernosand, 3000 bls. sulphate 500 tons; Gottesman & Co. Inc., Blankaholm, Sweden, 1565 bls. wood pulp.

GALVESTON IMPORTS

WEEK ENDING DECEMBER 24, 1932

Parsons & Whittemore, Inc., Nashaba, ——, 150 bls. sulphite.

Some New Paper Testing Procedures

The adoption of three tentative association paper testing methods for measuring the permeation of papers by liquids, has been announced by Secretary R. G. Macdonald of the Technical Association of the Pulp and Paper Industry.

How fast blotting paper will absorb ink is found by noting the time of absorption of a measured drop of standard writing ink, as indicated by no further reflection of light from the ink. This so-called "pipette" method, originated by E. O. Reed, formerly Technical Director of the U. S. Government Printing Office, is used by the U. S. Government, and is the one most generally used in this country by the blotting paper industry. A second method employing similar procedure is used for testing the rate of absorption of water by paper towels and other absorptive papers. This method has also come into extensive use since it was recommended several years ago by the Bureau of Standards as a valuable criterion of quality.

The third method is designed for use in testing papers that are quite resistant to aqueous fluids; for example, "in finding whether paper has been sized sufficiently to be written on satisfactorily with ink." This is based on the "dry-indicator" method devised by F. T. Carson, Bureau of Standards, which consists in floating on water a specimen of paper having its upper surface covered with a mixture of sugar and dye, and finding the time required for the water to penetrate through the paper sufficiently to cause coloration of the mixture. The tentative standard procedure was evolved after several years of cooperative testing by association subcommittees. Improved devices for applying this and the pipette method have recently been described in a published article by F. T. Carson and F. V. Worthington.

These methods were published in PAPER TRADE JOURNAL, November 3, 1932, and the chairman of the association Paper Testing Committee, B. W. Scribner, Bureau of Standards, will welcome suggestions concerning them.

Gets Patent On Paper Stock Regulator

[FROM OUR REGULAR CORRESPONDENT]

GLENS FALLS, N. Y., December 19, 1932—Harold D. Wells, of this city, has been awarded a patent on a paper stock regulator on which claims for new ideas were allowed. Application for the patent was made in 1930 and the rights have not yet been assigned. The invention is described as follows: "A stock regulating apparatus comprising a stock rectifying chamber, stock conducting means leading to said rectifying chamber and embodying a stock valve, water-conducting means leading to said rectifying chamber and embodying a water valve, a stock raised float in said rectifying chamber and means connecting said float with said stock valve for controlling the latter, a stock receiving control chamber and a passage leading thereto from said rectifying chamber, a stock lifted float in said control chamber and means connecting this float with said water valve to control the latter, and a discharge passage leading from said control chamber."

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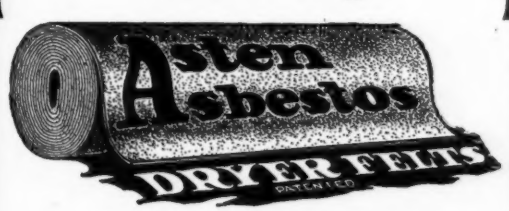

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ASTEN-HILL

Manufacturing Company
Philadelphia

New York Market Review

Office of the PAPER TRADE JOURNAL,
Wednesday, December 28, 1932.

Conditions in the local paper market are practically unchanged. As usual at this time of the year, demand for the various standard grades of paper is light. Salesmen have been recalled from the road and plans are being formulated for the coming year's campaign. The price situation continues irregular.

The news print paper market is marking time. Efforts being made to stabilize the industry are proceeding and, although the outlook for the future is uncertain, optimism is expressed in some quarters regarding the outcome. According to information gathered by the News Print Service Bureau, stocks at United States and Canadian mills at the end of November totalled 76,042 tons, compared with 81,295 tons on October 31.

Although trading in the paper board market has fallen off, demand for the various grades was quite active during the closing months of the year. Prices are steady and well maintained. Demand for fine paper has been fairly persistent. Tissues have been in seasonal request. No radical changes have been reported in the coarse paper market.

Mechanical Pulp

The ground wood pulp market is in a fairly satisfactory statistical position. Although the prevailing demand for mechanical pulp is listless, production both in America and abroad has been curtailed, and accumulations are not excessive. Quotations are generally holding to previously quoted levels.

Chemical Pulp

Quietness prevails in the chemical pulp market for the time being, although livelier trading is anticipated in some quarters after the turn of the year. There are a moderate number of inquiries around for future account, some of which should materialize into good orders. Prices remain unchanged, in most instances.

Old Rope and Bagging

The old rope market is spotty. Domestic old manila rope is fairly steady, but imported old manila rope is affected by the fluctuations of foreign exchange. Small mixed rope is dull. The bagging market continues quiet. Scrap and gunny bagging are only moving slowly. Roofing bagging is in moderate request.

Rags

Paper mill demand for domestic rags is irregular. Cotton rags are arousing little interest at present and a revival of trading is not anticipated until after the inventory period. Roofing grades, however, are moving in fair volume. The position of the imported rag market is unchanged and prices are strictly nominal.

Waste Paper

Steadiness prevails in the paper stock market, although demand for the lower grades of waste paper has slackened, due to the usual curtailed production of the board mills at this time of the year. The better grades of paper stock are holding up well, especially white envelope cuttings, offerings of which are scarce.

Twine

Most of the business transacted in the local twine market during the past week was along routine lines. Little improvement in demand for the various grades is expected until after the New Year holidays. Despite reports of shading on extra desirable orders, prices are generally holding to schedule.

New Boiler Water Treatment

H-O-H, the new organic boiler water treatment, manufactured by D. W. Haering & Co., water consultants, of 565 West Washington Boulevard, Chicago, Ill., is a scientifically prepared liquid embodying the most recent discoveries in the fields of organic and collodial chemistry.

It is a safe and effective extract representing active gluco-sides in their most efficient form for the treatment of boiler feed water. In the treatment of boiler water for the removal and prevention of boiler scale there are several questions, aside from the efficacy of the treatment, which must be considered.

In developing a water treatment for the boiler room, chemists of the organization have constantly had these problems in mind and admitting that the removal of scale is only one of many considerations in boiler water treatment, have produced a product that successfully fulfills all the requirements of a truly satisfactory water treatment.

H-O-H may also be used in Hot Water heaters with certainty of complete satisfaction and no possibility of damage or inconvenience such as are caused by the strong solutions sometimes used for this service. It eliminates scale and keeps entire steam and return system clean, prevents caustic embrittlement of the boiler plate, stops pitting and corrosion, stops priming and foaming, removes rust, eliminates carry over, is harmless to metal and may be used in process machines without fear of damage.

De Laval Imo Oil Pumps

A rotary displacement pump designed to run at standard motor speeds, and even at turbine speeds, is described in Catalog L-10, published by the DeLaval Steam Turbine Company, Trenton, N. J. There are only three moving parts, a power rotor and two idler rotors, the latter acting as seals to the power rotor but driven principally by fluid pressure and requiring no pilot gears. The contact surfaces of the power rotor have a convex contour which fits the concave contour of the idler rotors, giving a practically fluid-tight closure between these members and making possible efficiencies of 80 to 90 per cent. The catalog lists pumps of this design for capacities ranging from 4 to 460 gallons per minute, and for pressures up to 200 lb., but states that pumps are also supplied for pressures in excess of 500 lb. per square inch.

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Miscellaneous Markets

Office of the PAPER TRADE JOURNAL,
Wednesday, December 28, 1932.

BLANC FIXE.—The blanc fixe market is marking time until after the holiday period. Prices remain unchanged. The pulp is quoted at from $42.50 to $45.00 per ton, in bulk; while the powder is selling at from 3½ cents to 3¾ cents per pound, in barrels, at works.

BLEACHING POWDER.—Trading in the bleaching powder market is only moderately active. Contract shipments are moving slowly. Prices are generally holding to schedule. Bleaching powder is quoted at from $1.75 to $2.00 per 100 pounds, in drums, at works.

CASEIN.—The casein market is firm, but quiet. Domestic standard ground is quoted at 7 cents and finely ground at 8 cents per pound. Argentine standard ground is selling at 8 cents and finely ground at 8½ cents per pound, all in bags, car lot quantities.

CAUSTIC SODA.—Demand for caustic soda is fairly persistent. Prices are holding to schedule. Solid caustic soda is quoted at from $2.55 to $2.60; while the flake and the ground are selling at from $2.95 to $3.00 per 100 pounds, in large drums, at works.

CHINA CLAY.—The position of the china clay market is unchanged. Contract shipments are moving regularly. Imported china clay is quoted at from $10 to $15 per ton, ship side; while domestic paper making clay is selling at from $5 to $12 per ton, at mine.

CHLORINE.—Conditions in the chlorine market are fairly satisfactory. The contract movement is seasonal. Prices are holding to former levels. Chlorine is quoted at from $1.55 to $1.65 per 100 pounds, in tanks, or multi-unit cars, in ton lots, or over, at works.

ROSIN.—The rosin market fluctuated slightly. Grades of gum rosin used in the paper mills are now quoted at from $3.60 to $3.85 per 280 pounds, in barrels, at works. Wood rosin is selling at $2.60 per 280 pounds, in barrels, at southern shipping points.

SALT CAKE.—Steadiness prevails in the salt cake market. Prices remain unchanged. Salt cake is quoted at from $15 to $16; chrome salt cake at from $12 to $13 per ton, in bulk, at works; while foreign salt cake is selling at from $14 to $15 per ton, ship side.

SODA ASH.—The soda ash market is exhibiting a strong undertone. Demand is brisk for the season and prices are steady. Quotations on soda ash, in car lots, at works, per 100 pounds, are as follows: in bulk, $1.05; in bags, $1.30; and in barrels, $1.43.

STARCH.—Most of the business transacted in the starch market during the past week was routine. Prices remain unchanged. Special paper making starch is quoted at $2.19 per 100 pounds, in bags; and at $2.46 per 100 pounds, in barrels, at works.

SULPHATE OF ALUMINA.—Business in the sulphate of alumina market is listless. Prices are holding to schedule. Commercial grades are quoted at from $1.25 to $1.46; while iron free is selling at from $1.90 to $2.05 per 100 pounds, in barrels, at works.

SULPHUR.—The sulphur market continues steady. Sulphur is quoted at $18 per long ton, on orders of 1,000 tons, or over, on yearly contracts; and at $20 per ton on any smaller quantity over that period. On spot and near by car loads, the quotation is $21 per ton.

TALC.—Paper mill demand for talc is light at present. The contract movement is fairly steady. Prices are unchanged. Domestic talc is quoted at from $16 to $18 per ton, in bulk, at mine; while imported talc is selling at from $18 to $22 per ton, in bags, ship side.

Market Quotations

Paper

(F. o. b. Mill)

Leggers	6.50	@	38.00
Bonds	4.50	@	53.25
Index	6.00	@	12.00
Writings—			
Extra Superfine	6.50	@	15.00
Superfine	6.25	@	14.75
Tub sized	4.50	@	7.00
Engine sized	4.00	@	5.00
Book, Cased—			
S. & S. C.	5.25	@	—
M. F.	3.75	@	5.00
Coated and Enamel	6.25	@	9.75
Lithograph	6.75	@	11.25
Tissues—Per Ream—			
White No. 1	.50	@	.70
Anti-Tarnish M. G. only	.65	@	.70
Colored	.70	@	.90
White No. 2	.55	@	.60
Kraft	.65	@	.70
Manila	.55	@	.60
Manila—			
No. 1 Jute	9.00	@	9.25
No. 2 Jute	7.75	@	8.50
No. 1 Wood	4.00	@	5.25
No. 2 Wood	3.50	@	4.00
Butchers	3.37½	@	—
Fibre Papers—			
No. 1 Fibre	4.25	@	5.50
No. 2 Fibre	4.00	@	4.75
Common Bogus	1.50	@	3.00
Screenings	2.00	@	3.00
Card Middles	4.00	@	5.00
Glassine—			
Bleached, basis 25 lbs., No. 1	.09¼	@	—
No. 2	.11¼	@	—
Bleached, basis 20 lbs.	.11¼	@	—

(Delivered New York)

News, per ton—			
Roll, contract	45.00	@	—
Rolls, spot	45.00	@	—
Sheets	50.00	@	—
Side Runs	30.00	@	35.00
Kraft—			
No. 1 Domestic	4.50	@	4.75
No. 2 Domestic	2.37½	@	2.75
Southern	2.25	@	2.50
Imported	2.75	@	3.50
Boards—per ton—			
News	30.00	@	32.50
Straw	29.50	@	31.50
Chip	24.50	@	30.00
Binders' Boards	62.00	@	70.00
Kraft Liner	40.00	@	45.00
Standard 85 Test Jute Liner	27.00	@	29.50
Sgl. Mla. Ll. Chip	37.50	@	40.00

(F. o. b. Mill)

Wood Pulp Boards	70.00	@	80.00

Mechanical Pulp

(On Dock)

No. 1 Imported—			
Moist	16.00	@	18.00
Dry	17.00	@	20.00

(F. o. b. Mill)

No. 1 Domestic	16.00	@	22.00

Chemical Pulp

(On Dock, Atlantic Ports)

Sulphite (Imported)—			
Bleached	1.80	@	2.25
Easy Bleaching	1.60	@	1.75
No. 1 strong unbleached	1.35	@	1.60
Mitscherlich unbleached	1.55	@	1.75
No. 2 strong unbleached	1.25	@	1.35
No. 1 Kraft	1.25	@	1.40
No. 2 Kraft	1.10	@	1.15
Sulphate—			
Bleached	1.85	@	2.15

(F. o. b. Pulp Mill)

Sulphite (Domestic and Canadian)—			
Bleached	1.75	@	3.75
Easy Bleaching	1.75	@	1.90
News	1.40	@	1.65
Mitscherlich unbleached	2.00	@	2.55
Kraft (Domestic)	1.25	@	2.75

(Delivered Paper Mills)

Soda Bleached	2.00	@	—

Domestic Rags

New Rags

(Prices to Mill f. o. b. N. Y.)

Shirt Cuttings—			
New White, No. 1	4.00	@	4.25
New White, No. 2	3.00	@	3.25
Silesias No. 1	3.75	@	4.00
New Unbleached	5.50	@	6.00
New Soft Blacks	2.75	@	3.00
Blue Overall	3.00	@	3.50
Fancy	1.50	@	1.75
Washables	1.15	@	1.40
Mixed Khaki Cuttings	2.50	@	3.00
Pink Corset Cuttings	2.75	@	3.25
O. D. Khaki Cuttings	3.00	@	3.25
Men's Corduroy	1.00	@	1.25
New Mixed Blacks	2.25	@	2.50

Old Rags

White, No. 1—			
Repacked	3.00	@	3.50
Miscellaneous	2.00	@	2.25
White, No. 2—			
Repacked	1.75	@	2.00
Miscellaneous	1.50	@	1.75
Thirds and Blues—			
Repacked	1.50	@	1.75
Miscellaneous	1.00	@	1.25
Black Stockings	2.00	@	2.25
Roofing Rags—			
No. 1	.53	@	.58
No. 2	.48	@	.53
No. 3	.43	@	.48
No. 4	.38	@	.43
No. 5A	.33	@	.38

Foreign Rags

New Rags

New Dark Cuttings	1.40	@	1.50
New Mixed Cuttings	1.60	@	1.75
New Light Silesias	3.00	@	3.25
Light Flannelettes	2.50	@	2.75
Unbleached Cuttings	4.75	@	5.25
New White Cuttings	4.00	@	4.25
New Light Oxfords	3.00	@	3.25
New Light Prints	1.85	@	2.25

Old Rags

No. 1 White Linens	5.25	@	5.50
No. 2 White Linens	4.50	@	4.75
No. 3 White Linens	3.25	@	3.75
No. 4 White Linens	1.75	@	2.25
No. 1 White Cotton	3.50	@	3.75
No. 2 White Cotton	2.75	@	3.25
No. 3 White Cotton	2.25	@	2.50
No. 4 White Cotton	1.40	@	1.50
Extra Light Prints	1.80	@	2.00
Ord. Light Prints	1.60	@	1.75
Med. Light Prints	1.40	@	1.55
Dutch Blue Cottons	1.35	@	1.40
French Blue Linens	1.80	@	1.90
German Blue Linens	1.70	@	1.80
German Blue Cottons	1.20	@	1.25
Checks and Blues	1.25	@	1.30
Lindsay Garments	.75	@	.80
Dark Cottons	.70	@	.75
Old Shopperies	.55	@	.60
New Shopperies	.60	@	.65
French Blues	1.25	@	1.30

Old Rope and Bagging

(Prices to Mill f. o. b. N. Y.)

Gunny No. 1—			
Foreign	.90	@	1.00
Domestic	1.00	@	1.10
Wool Tares, light	.70	@	.80
Wool Tares, heavy	.70	@	.80
Bright Bagging	.70	@	.75
Small Mixed Rope	.50	@	.60
Manila Rope—			
Foreign	1.35	@	1.40
Domestic	1.40	@	1.50
New Burlap Cut	1.00	@	1.50
Hessian Jute Threads—			
Foreign	2.60	@	2.75
Domestic	2.80	@	3.00

Old Waste Papers

(F. o. b. New York)

Shavings—			
White Envelope Cuttings	1.70	@	1.80
Ordinary Hard White No. 1	1.55	@	1.65
Hard White No. 2	1.30	@	1.40
Soft White No. 1	1.40	@	1.50
Flat Stock—			
Stitchless	.55	@	.65
Overissue Mag	.55	@	.65
Solid Flat Book	.50	@	.55
Crumpled No. 1	.40	@	.45
Solid Book Ledger	1.50	@	1.75
Ledger Stock	.45	@	.55
New B. B. Chips	.20	@	.25
Manilas—			
New Env. Cut	1.25	@	1.35
New Cuttings	1.00	@	1.05
Extra No. 1 old	.80	@	.90
Print	.35	@	.40
Bogus Wrapper	.30	@	.35
Container	.25	@	.30
Old Kraft Machine—			
Compressed bales	.75	@	.85
News—			
No. 1 White News	1.00	@	1.05
Strictly Overissue	.50	@	.55
Strictly Folded	.35	@	.40
No. 1 Mixed Paper	.17½	@	.22½

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CASEIN-CO A BORDEN PRODUCT BRAND

ANY GRADE ANY QUANTITY

THE CASEIN MFG. COMPANY OF AMERICA, Inc.

205 E. 42nd St. New York, N. Y.

Oldest and Largest Producers of Casein in America

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SLITTERS

The heavy-duty Langston Slitter can be had in any width, to wind any diameter. Use it as a winder or as a rewinder. Speeds up to 3000 feet per minute. Makes rolls of uniform density, square-edged. Langston's Shear-Cut makes no dust—the paper is *clean-cut*, not ground apart. A catalog is yours for the asking.

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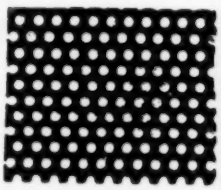
For Pulp and Paper Mills



STEEL, COPPER, BRASS, BRONZE, MONEL METAL and other Alloys punched for Centrifugal and Rotary Screens, Pulp Washers, Drainer Bottoms, Filter Plates, etc.

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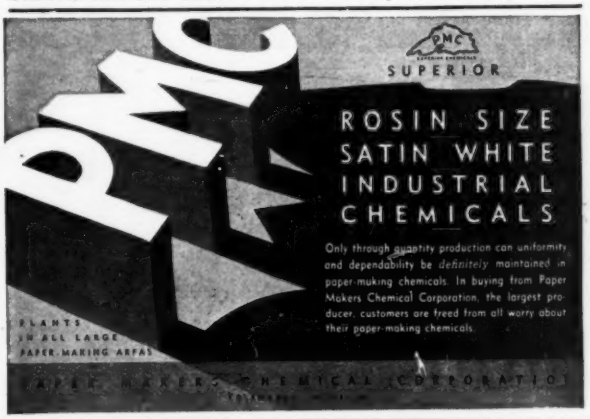
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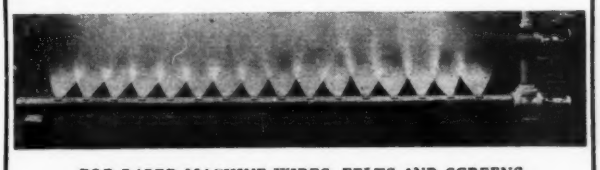

FOR PAPER MACHINE WIRES, FELTS AND SCREENS

THE MOORE & WHITE COMPANY

Paper Mill Machinery Philadelphia, U. S. A.

Your Card in This Space Will Bring Results

Twines
(F. o. b. Mill)

Cotton—			
B. C., 18 basis	.30	@	.32
No. 1	.20	@	.22
No. 2	.19	@	.20
No. 3	.17	@	.18
A. Italian, 18 basis	.36	@	.37
Finished Jute—			
Dark, 18 basis	.18	@	.20
Light, 18 basis	.20	@	.22
Jute Wrapping, 3-6 Ply—			
No. 1	.15½	@	.16½
No. 2	.11¾	@	.12¾
Tube Rope—			
4-ply and larger	.10¼	@	.10¾
Fine Tube Rope—			
4-ply	.12¼	@	.12¾
3-ply	.13¼	@	.13¾
2-ply	.14¼	@	.14¾
Paper Makers Twine Balls	.09¼	@	.11¼
Box Twine, 2-3 ply	.11¼	@	.12¾
Jute Rope	.09	@	.10
White Hemp	.12¼	@	.12¾
Java Sisal—			
No. 1 Basis	.10	@	—
No. 2 Basis	.09	@	—
New Zealand Sisal	.10	@	—
Sisal Lath Yarn—			
No. 1	.12	@	.14
No. 2	.10	@	.12
Manila Twine	.23	@	.28

CHICAGO

Paper
(F. o. b. Mill)

Rag Bond	.30	@	.53¼
Water Marked Sulphite Bond	.09	@	.12
Sulphite Bond	.04	@	.11
Superfine Writing	.18	@	.24
No. 1 Fine Writing	.14	@	.18
No. 2 Fine Writing	.12	@	.14
No. 3 Fine Writing	.07	@	.18
No. 1 M. F. Book	.06½	@	.07¾
No. 2 M. F. Book	.05¾	@	.06¾
No. 1 S.&S.C. Book	.06¾	@	.07¾
No. 2 S.&S.C. Book	.05¾	@	.06½
Coated Book	.07½	@	.12
Coated Label	.07½	@	.10
No. 1 Manila	.04¼	@	.05¾
No. 1 Fibre	.04¾	@	.05¾
No. 2 Manila	.04½	@	.04¾
Butcher's Manila	.03¼	@	.03¾
No. 1 Kraft	3.50	@	4.50
Southern Kraft	2.62½	@	—
No. 2 Kraft	2.62½	@	—
Wood Tag Boards	.04¼	@	.06¾
Sulphite Screenings	.03	@	.03¼
Manila Tissue	.07	@	.07½
White Tissue	.07¼	@	.07½
(Delivered Central Territory)			
News, per ton—			
Rolls, contract	45.00	@	—
Sheets	50.00	@	—
Boards, per ton—			
Plain Chip	27.50	@	—
Solid News	30.00	@	—
Manila Lined Chip	37.50	@	—
Patent coated	47.50	@	—
Container Lined—			
85 Test	50.00	@	55.00
100 Test	55.00	@	60.00

Old Papers
(F. o. b. Chicago)

Shavings—			
No. 1 White Envelope cuttings	1.50	@	1.55
No. 1 Hard White	1.40	@	1.45
No. 1 Soft White	1.00	@	1.10
Ledger & Writings	.45	@	.55
Solid Books	.25	@	.30
Blanks	1.00	@	1.05
Krafts	.70	@	.80
New Kraft Cuts	1.15	@	1.25
Manila Env. Cuts	1.25	@	1.30
Ex. No 1 Manila	.90	@	1.00
Print Manila	.30	@	.35
Overissue News	.30	@	.35
Old Newspapers—			
No. 1	.25	@	.30
Mixed Papers—			
No. 1	.15	@	.20
Roofing Stocks—			
No. 1	30.00	@	—
No. 2	28.00	@	—

PHILADELPHIA

Paper
(F. o. b. Mill)

Bonds	.04	@	.40
Ledgers	.06	@	.40
Writings—			
Superfine	.10	@	.18
Extra Fine	.15	@	.26
Fine	.15	@	.26
Fine, No. 2	.10	@	.25
Fine No. 3	.05½	@	.18
Book, M. F.	.04¾	@	.07
Book, S. S. & C.	.05	@	.07½
Book, Coated	.06	@	.16
Coated Lithograph	.06	@	.11
Label	.07	@	.11
No. 1 Jute Manila	.06	@	.09
Manila Sul., No. 1	.03	@	.05
Manila No. 2	.03	@	.04
No. 1 Kraft	.05¾	@	.06
No. 2 Kraft	.03¾	@	.04¼
Southern Kraft No. 1	—	@	.03¾
Southern Kraft No. 2	—	@	.02¾
Common Bogus	.03	@	.04
(Delivered Philadelphia)			
News Print Rolls	46.00	@	—
Straw Board	32.00	@	—
News Board	30.00	@	—
Chip Board	30.00	@	—
Wood Pulp Board	70.00	@	80.00
Binder Boards—			
No. 1, per ton	73.00	@	75.00
No. 2, per ton	62.00	@	65.00
Carload lots	60.00	@	65.00
Tarred Felts—			
Regular	52.25	@	54.25
Slaters (per roll)	.84	@	.94
Best Tarred, 1-ply (per roll)	1.95	@	2.10
Best Tarred, 2-ply (per roll)	1 50	@	1.60
Best Tarred, 3-ply	2.00	@	2.25

Domestic Rags (New)
(Price to Mill, f. o. b. Phila.)

Shirt Cuttings—			
New White, No. 1	.03½	@	.04
New White, No. 2	.02½	@	.04
Light Silesias	.02½	@	.03
Silesias, No. 1	.03	@	.03½
Black Silesias, soft	.02½	@	.03
New Unbleached	.05	@	.05½
Washable, No. 1	.01	@	.01½
Blue Overall	.03	@	.03½
Cottons—According to grades—			
Washable, No. 2	.01	@	.02
New Blue	.01	@	.02
Fancy	.01½	@	—
New Black Soft	.02	@	.03
New Light Seconds	.01	@	.02
New Dark Seconds	1.50	@	1.75
Khaki Cuttings—			
No. 1 O.D.	.03	@	.03½
No. 2 Mixed	.02½	@	.03
Corduroy	.02	@	.02½
New Canvas	.03½	@	.04
New Black Mixed	.02½	@	.03

Domestic Rags (Old)

White No. 1—			
Repacked	2.50	@	3.00
Miscellaneous	1.75	@	2.00
M. G.	3.00	@	3.50
Thirds and Blues—			
Miscellaneous	1.00	@	1.25
Repacked	1.50	@	1.75
Black Stockings (Export)	2.00	@	3.50
Roofing Stock—			
Foreign No. 1	.50	@	.75
Repacked	.70	@	.80

Bagging
(F. o. b. Phila.)

Gunny, No. 1—			
Foreign	1.25	@	1.50
Domestic	1.50	@	—
Manila Rope	2.00	@	2.25
Sisal Rope	1.25	@	1.50
Mixed Rope	1.00	@	1.10
Scrap Burlaps—			
No. 1	1.25	@	1.50
No. 2	.80	@	1.00
Wool Tares, heavy	2.75	@	—
Mixed Strings	1.15	@	1.25
No. 1 New Light Burlap	2.25	@	2.50
New Burlap Cuttings	2.00	@	2.25

Old Papers
(F. o. b. Phila.)

Shavings—			
No. 1 Hard White	1.60	@	1.70
No. 2 Hard White	1.50	@	1.60
No. 1 Soft White	1.40	@	1.45
No. 2 Soft White	1.10	@	1.15
No. 1 Mixed	.50	@	.60
No. 2 Mixed	.40	@	.50
Solid Ledger Stock	1.00	@	1.10
Writing Paper	.65	@	.70
No. 1 Books, heavy	.55	@	—
No. 2 Books, light	.40	@	—
No. 1 New Manila	1.10	@	1.15
No. 1 Old Manila	.60	@	.65
Print Manila	.40	@	.45
Container Manila	.35	@	.40
Old Kraft	.85	@	.90
Common Paper	.20	@	.25
No. 1 Mixed Paper	.25	@	.30
Straw Board, Chip	.25	@	.30
Binders Board, Chip	.25	@	.30
Corrugated Board	.35	@	.45
Overissue News	.45	@	.55
Old Newspaper	.30	@	.35

BOSTON

Paper
(F. o. b. Mill)

Ledgers—			
Sulphite	.06	@	.12½
Rag Content	.12	@	.30
All Rag	.36	@	.52½
Bonds—			
Sulphite	.05½	@	.11½
Rag Content	.12	@	.30
All Rag	.36	@	.65
Writings	.06½	@	.20
Superfines	.11	@	.31
Book, Super	.06	@	.09
Book, M. F.	.05½	@	.08½
Book, Coated	.08½	@	.18
Coated Litho	.09	@	.12
Label	.09½	@	.15
Jute Manila No. 1	.11	@	.13
Manila, Sul. No. 1	.04¾	@	.06¼
Manila, Sul. No. 2	.03¾	@	.04½
No. 1 Kraft	—	@	.04¾
No. 2 Kraft	—	@	.02¾
(F. o. b. Boston)			
Southern Kraft	—	@	.02½
(F. o. b. destination in carload lots, f. o. b. mill in less than carload lots.)			
Common Bogus	.02	@	.02¾
(Delivered New England points)			
News Print, rolls	44.50	@	—
Straw Board, rolls	.009	—	@35.00
Straw Board in Sheets, basis 35 to 70s	—	@	40.00
Filled News Board	—	@	30.00
Chip Board	27.50	@	—
Chip Board (Creasing)	27.50	@	30.00
Single Manila Lined Chip	—	@	37.50
Single White, Patent Coated News Board—Bender	45.00	@	55.00
Wood Pulp Board	70.00	@	75.00
Binder Boards	62.00	@	75.00

Old Papers
(F. o. b. Boston)

Shavings—			
No. 1 Soft White	1.50	@	1.65
No. 1 Old Manila	.50	@	.60
No. 2 Mixed	.50	@	.55
No. 1 Mixed	.75	@	.85
Solid Ledger Books	1.20	@	1.40
Overissue Ledger Stock	1.15	@	1.30
Mixed Ledgers	.60	@	.70
No. 1 Books, heavy	.55	@	.65
No. 1 Books, light	—	@	.30
Crumpled Stitchless Book Stock	.50	@	.60
Manila Env. Cuttings	1.25	@	1.30
No. 1 Old Manila	.55	@	.65
White Blank News	.80	@	.85
No. 1 Kraft	.70	@	.95
Manila	.80	@	.90
No. 1 Mixed Papers	.12½	@	.15
Print Manila	.30	@	.40
Overissue News	.35	@	.45
Old Newspapers	.30	@	.35
Box Board, Chip	.17½	@	.20
Corrugated Boxes	.20	@	.25
Screening Wrappers	.25	@	.32½

Bagging
(F. o. b. Boston)

Gunny No. 1—			
Foreign	—	@	1.00
Domestic	.75	@	—
Manila Rope—			
Foreign	1.25	@	1.45
Domestic	—	@	1.60
Transmission Rope	—	@	.90
Mixing String	—	@	.30
Jute Rope	—	@	.75
Jute Carpet Threads	.25	@	.30
Bleachery Burlap	1.75	@	2.00
Scrap Burlap	.60	@	1.00
No. 1 Scrap Burlap	.75	@	.80
Scrap Sisal	.90	@	—
Scrap Sisal for shredding	—	@	.90
Wool Tares, heavy	.65	@	.75
New Burlap Cutting	.75	@	.90
Australian Wool Pouches	2.00	@	—
Heavy Baling Bagging	.90	@	1.10
Paper Mill Bagging	.50	@	.60
Bagging No. 2	.20	@	.25
No. 1 Burlap	1.75	@	2.00

Domestic Rags (New)
(F. o. b. Boston)

Shirt Cuttings—			
New Light Prints	—	@	.01½
New White No. 1	.03¾	@	.04
New White No. 2	.02¾	@	.03¼
Silesias No. 1	—	@	.03
New Black Silesias	.02½	@	.02¾
New Unbleached	.05	@	.05¼
Fancy	—	@	.02½
Washable	—	@	.01¾
Cottons—According to grades—			
Blue Overalls	—	@	.03¾
New Black, soft	.04	@	.04½
Khaki Cuttings	.03	@	.03½
O. D. Khaki	.03½	@	.03¾
Corduroy	.02¾	@	.03
New Canvas	—	@	.05
B.V.D. Cuttings	.04	@	.04¼

Domestic Rags (Old)
(F. o. b. Boston)

Canvas	.04½	@	—
White No. 1—			
Repacked	3.00	@	3.50
Miscellaneous	2.00	@	2.25
White No. 2—			
Repacked	.02¾	@	.02½
Miscellaneous	.02	@	.02¾
Twos and Blues	.90	@	1.00
Thirds and Blues—			
Repacked	.75	@	.85
Miscellaneous	.70	@	.75
Black Stockings	2.00	@	2.25
Roofing Stock—			
No. 1	.35	@	.40
No. 2	.30	@	.35
No. 3	.25	@	.30

Foreign Rags
(F. o. b. Boston)

Dark Cottons	.50	@	.60
New No. 1 White Shirt Cuttings	3.75	@	4.00
Dutch Blues	1.25	@	1.50
New Checks & Blues	2.25	@	2.50
Old Fustians	—	@	.75
Old Linsey Garments	.55	@	.65

TORONTO

Paper
(F. o. b. Mill)

Bond—			
No. 1 Sulphite	.10½	@	—
No. 2 Sulphite	.08½	@	—
No. 1 Colored	.10¾	@	—
No. 2 Colored	.09	@	.10½
Ledgers (sulphite)	—	@	—
Ledgers, No. 1	.36	@	—
Ledgers, No. 2	.27	@	—
Writing	.09	@	.09½
Book—			
No. 1 M. F. (Carloads)	6.65	@	—
No. 3 M. F. (Carloads)	6.20	@	—
No. 4 M. F. (carloads)	5.25	@	—
No. 1 S. C. (carloads)	7.15	@	—
No. 3 S. C. (carloads)	6.65	@	—
No. 4 S. C. (carloads)	5.70	@	—
No. 1 Coated and Litho	12.50	@	—
No. 2 Coated and Litho	11.50	@	—
No. 3 Coated and Litho	10.00	@	11.50
Coated tinted	14.00	@	—
Wrapping—			
Rag Brown	4.40	@	—
White Wrap	2.00	@	—
"B" Manila	4.90	@	—
No. 1 Manila	5.40	@	—
Fiber	5.40	@	—
Kraft, M. F.	5.75	@	—
Kraft No. 2	5.40	@	—

(F.O.B. Cars Toronto)

News, per ton—			
Rolls (contract)	45.50	@	—
Sheets	50.50	@	—

Pulp
(F. o. b. Mill)

Ground Wood	18.00	@	20.00
Sulphite easy bleaching	40.00	@	—
Sulphite, news grade	38.00	@	—
Sulphite, bleached	48.00	@	58.00
Sulphate	50.00	@	—

Old Waste Paper
(In carload lots, f. o. b. Toronto)

Shavings—			
White Env. Cut	1.80	@	—
Soft White	1.40	@	—
White Blk. News	1.25	@	—
Book and Ledger—			
Flat Magazine and Book Stock (old)	.90	@	—
Light and Crumpled Book Stock	.80	@	—
Ledgers and Writings	1.00	@	—
Manilas—			
New Manila Cut	1.25	@	—
Printed Manilas	.55	@	—
Kraft	1.75	@	—
News and Scrap—			
Strictly Overissue	.50	@	—
Strictly Folded	.50	@	—
No. 1 Mixed Paper	.40	@	—

Domestic Rags
(Price to mills, f. o. b. Toronto)

No. 1 White Shirt Cuttings	.09½	@	.10
Fancy Shirt Cuttings	.06	@	.06½

East Engin. Library

JAN 3 1933

PAPER TRADE JOURNAL

Vol. XCV DECEMBER 29, 1932 No. 26

Geigy devotes this space to two words; addressing them to the friends, who, during 1932 and years passed, have demonstrated their real confidence in this old-modern organization. Those words are just

Thank You!

and they can't be said in any other way to mean any more.

GEIGY COMPANY INC.—NEW YORK

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DYESTUFF MAKERS · GEIGY · SINCE 1758 ·

Established 1764

June 18, 1932

U. S. MACHINERY 50% OBSOLETE, DECLARES MUIR

Washington, D. C., June 17.—Loans by the Reconstruction Finance Corporation to private industry to finance purchases of new equipment were recommended to the Senate Banking and Currency Committee by Malcolm Muir, president of McGraw-Hill Publishing Co., New York.

With other industrial leaders, Mr. Muir was questioned by the committee as to methods of stimulating business. He said the capital needs of some industries total a billion dollars.

"We, as publishers of 30 industrial and engineering magazines intimately associated with the basic industries of this country," Mr. Muir told the committee, "are in a position to observe the growing need for replacement of equipment, not to increase productive capacity or through mechanization to decrease employment, but for the purpose of lowering the cost of manufacturing and thereby the price of goods to the consumer.

Control of Buying

"Improved equipment does not mean greater capacity, if only enough new machines are installed to provide for the same output and the old equipment scrapped. This can be controlled if the credit is made available by the Reconstruction Finance Corporation.

"The out-of-date equipment of American industry, amounting to about 50 per cent of that now installed, is increasing the expense of manufacture, cutting profits and depressing business. Lower production costs, possible with modern equipment, will reduce prices and stimulate business.

"The research departments of many manufacturing organizations throughout the country have ready for commercial exploitation new industrial equipment and many devices for the home from which will undoubtedly spring new industries as soon as the capital for their development is available."

R.F.C
learns that keen competition requires
MODERN EQUIPMENT

THE Reconstruction Finance Corporation was recently told that our industrial machinery is 50% obsolete — and is preparing to aid private industry in replacing old equipment.

Your Future Profits Will Come From Present Improvements

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The *Beloit* Way
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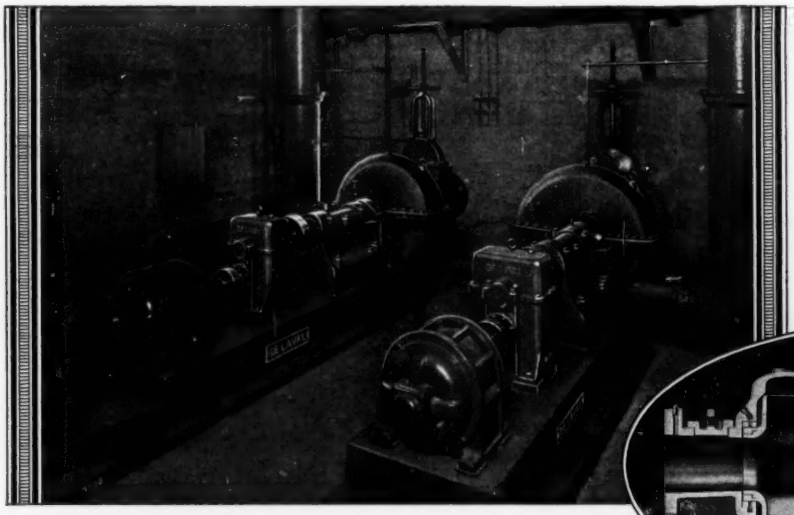
BELOIT

Entered as second-class matter, March 3, 1925, at the Post Office at East Stroudsburg, Pa., under the Act of Congress of March 3, 1879. Published every Thursday by the Lockwood Trade Journal Co., at 34 N. Crystal St., East Stroudsburg, Pa. Executive and Editorial Offices: 15 W. 47th St., New York, N.Y.

The DE LAVAL Clogless PUMP

is specially designed to handle solids in suspension.



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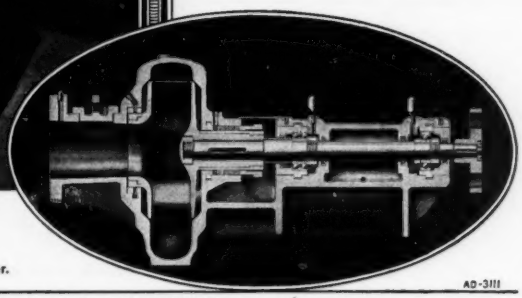

Above—De Laval Clogless Pumps driven through De Laval Helical Gears by standard speed motors, with gasoline engine as standby.

At right—Section of De Laval Clogless Pump with enclosed impeller.

AD-3111

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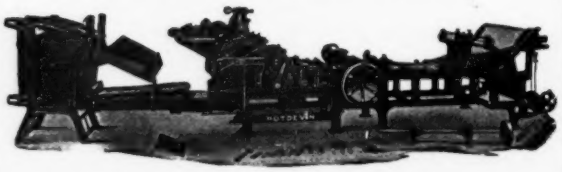

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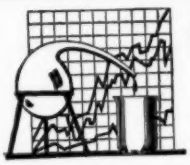

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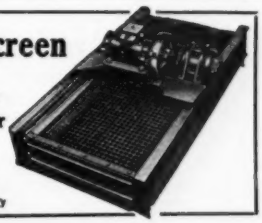

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Entire contents classified under separate headlines for the United States and Canada, alphabetically and geographically arranged by states.
City Addresses of Mills and Mill Supply Houses
Classified List of Paper Mill Products
Classified List of Pulp Mill Products
Coated Paper Manufacturers
Envelope Manufacturers
Glazed and Coated Paper Manufacturers
Idle Mills
Mill Officials
Pad Manufacturers
Paper Merchants
Paper Stock and Rag Dealers
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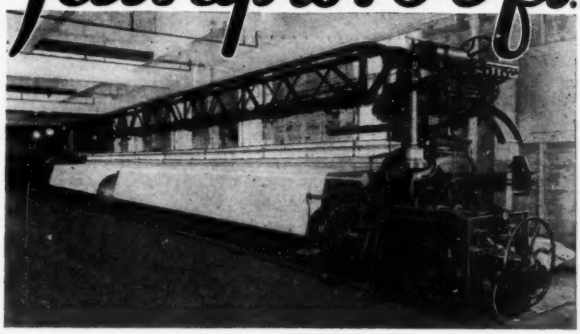

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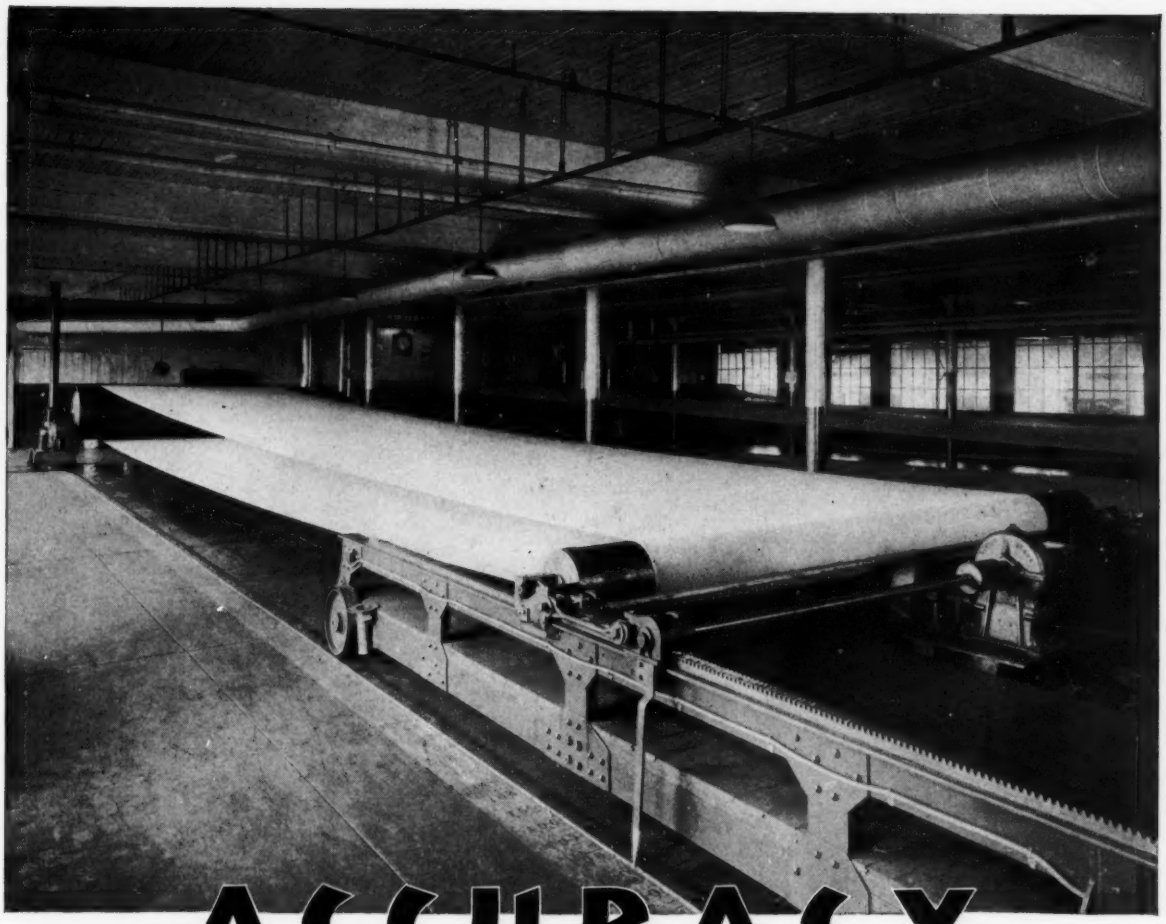

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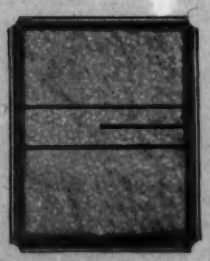
Hamilton Felts



Hamilton Felts are marked by two blue lines full width of the felt and by one shorter blue line midway between them.